CERTIFICATE

This is to certify that this dissertation work on ***ORUTHALAI VATHA PETHAM*** has been carried out by **Dr.P.KAVITHA** during the year 2010-2013 in the Post Graduate Department of Maruthuvam, Government Siddha Medical College, Chennai- 600106 under my guidance and supervision in partial fulfillment of regulation laid by **The Tamilnadu Dr. M.G.R Medical University,Chennai** for the final **M.D(siddha) Branch I-MARUTHUVAM** examination to be held in **April 2013**.

This dissertation is a record of original work done and it has not been previously formed the basis for the award of any degree.

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சித்தர் காப்பு

பார்த்திடவே நந்தீசர் மூலத்தீசர்
பண்பான் அகத்தீசர் சட்டை நாதர்
போர்த்திடவே பதஞ்சலியும் ஊனர் கண்ணர்
கோரக்கர் கமலமுனி சண்டிகேசர்
கூர்த்திடவே இடைக்காடர் சிவாயசித்தர்
கொங்கணவர் தந்தை போக நாதர்
காத்திடவே மச்சமுனி பிண்ணாக்கீசர்
காலாங்கி சுந்தரரும் காப்பு தானே...

தோற்றக்கிரம ஆராய்ச்சியும் சித்தமருத்துவ வரலாறும்

பக்க எண்458

INTRODUCTION

The Siddha system of medicine is one of the foremost medical system of the world. The unique nature of this system is continuous service to humanity for more than 10000 years in combating diseases and maintaining its physical, mental and moral health.

The Siddha system of medicine is formulated by Siddhars so called “Seevanmuthars”. The name Siddha means the attainment of perfection.

The Siddha system describes 96 main constituents of human beings. Among the 96 principles “muththathus” is very important. Based on the three humours, they classified the disease and its treatments. These three humours are nourished by their respective elements

.

''வாதமாய்ப் படைத்து பித்தவன்னியாய்க் காத்து
சேத்தும சீதமாய்த் துடைத்து''

தேரையர் மருத்துவ பாரதம்.

Any slightly deviation in muththathus causes disease,

“மிகினும் குறையினும் நோய் செய்யும் நூலோர்
வளிமுதலா எண்ணிய மூன்று”

திருவள்ளுவர்

Siddha aims at getting to root of the cause with its holistic approach and not just offering symptomatic relief. It induces revitalization of physiological functions.

“Prevention **is better than cure**,” The famous saint **Theraiyar** says,

“நீர்சுருக்கி மோர்பெருக்கி
நெய்யுருக்கி உண்பவர்தம்
பேருரைக்கிற் போமே பிணி”

- தேரையர்

Siddha treatment has two methods, one is internal and another one is external. Internal medicines which includes kudineer, karkam, choornam, manappagu, parpam and chenduram etc., and external includes thailam, ottradam, poochu and thokkanam etc..

Many siddhars like **AGASTHIYAR, BOGAR, THERAIYAR** describe about headache and **YUGI** explains the headache under the classification of vadha diseases.He explained its aetiology,clinical features and prognosis of the diseases.

The clinical features of **ORUTHALAI VATHA PETHAM** is compared to **MIGRAINE** and is selected for my dissertation work.Headache is the most common pain syndrome.There are almost 300 medical conditions that cause headache.

In 2010 WHO ranked **MIGRAINE** is 19th leading disability disease.In world 10% of populations are suffering from MIGRAINE and the contribution of India is about 15-20% totally .Of all the headache patients 30-40% are suffering from MIGRAINE.Women sufferers are 3 times more than Man.

The typical migraine headache is unilateral headache and pulsating in nature, and lasts for 4-72 hours.Symptoms include nausea, vomiting, photophobia, and phonophobia.

Nowadays **ORUTHALAI VATHA PETHAM** (MIGRAINE) is a major problem in the world.I feel it is apt to treat the disease **(ORUTHALAI VATHA PETHAM)** through siddha medicine named **Sathikkai podi** (internal medicine) mentioned in Gunapadam(part 1), and **Vettiver thylum** (external medicine) mentioned in koshayi anuboga bramma ragasiyam .

Appreciation and appropriate application of siddha science will give us all a happy, healthy and hormonious life.

AIM AND OBJECTIVES

AIM OF THE STUDY:

Primary aim:

To assess the safety and efficacy of the Sathikkai podi and Vettiver thailam.

Secondary aim:

To evaluate the effect of Sathikkai podi and Vettiver thailam to reduce the Unilateral headache,nausea and vomiting in Oruthalaivathapetham.

OBJECTIVES OF MY STUDY:

- To collect the authorised measures and review the ideas of Oruthalai vatha petham in Siddha and modern literatures.
- To have an idea about the incidence of the disease with **age, occupation, economic states, habits and hereditary.**
- To expose the efficacy of siddhars diagnostic principles such as mukkutram, envagai thervugal, ezhu udalthathukkal, neerkuri and neikuri.
- To have detailed clinical investigations.
- To have a clinical trial on the disease **"ORUTHALAI VATHA PETHAM"** with siddha medicines, "**SATHIKKAI PODI"** and **"VETTIVER THAILAM".**
- To evaluate the,
  - **Biochemical analysis**
  - **Toxicological** [acute & subacute]
  - **Pharmacological action**
  - **Bio-statiscal analysis**
- To handle the modern parameters to confirm the diagnosis and prognosis of the study.

REVIEW OF LITERATURE

SIDDHA ASPECT

According to our system all diseases are due to provocation of 3 humours and alteration in seven physical constituents.All these alterations are due to

a. Seasonal variation

b. Environmental conditions, such as pollutions and micro organisms,

c. Suvai marupadugal (Diet habits)

d. Immunological status

Changes in the above said factors leads to provocation of three humours and changes in the seven physical consitituents leads to disease manifest.

The great siddhar yugimuni classified the diseases based on clinical signs with the humoural pathology in “Yugi vaidhya chinthamani”.

“Oruthalai vatha petham” is the one of the classification of vatha diseases in “Yugi Vaidhya Chinthamani”.

ORUTHALAI VATHA PETHAM

In “yugi vaidhya chinthamani” Yugi had classified “Oruthalai Vatha Petham” is one among the 85 types of Vatha Noigal.

VATHA NOIGAL:

DEFINITION:

நரம்பு துவாரங்களில் கெட்ட நீர் தங்கி ஊறி அதிகரித்து வலி,அசதி,சர்வாங்கம் முழுவதும் நோயை விளைவித்தலாம். (ஆவி அளிக்கும் அமுத முறை விளக்கம் பக்கம் 345).

வாய்வு அதிகரித்து மனிதன் உடம்பில் இருக்கும் அனைத்து நரம்பு (துவாரங்களுக்கும்) தசைகளுக்கும் பரவி வாய்வு அதிகரித்து வலி, அசதி, உடல் முழுவதும் வாத நோயை பரவ செய்யும். (பல திரட்டு வைதியம் 76)

Acumulation of exudative fluid (or) pus in the cavity causing pain all over the body.

Various siddhar's & siddha Literature Thought about Classification of Vatha Diseases

*In "**Yugi Vaidhya Chinthamani**", there are 3 various school of thoughts.First he told 80 types of Vatha diseases.

"என்னவே வாதமது எண்பதாகும்"

-பக்கம் 93

Again he described 84 types of Vatha diseases**.**

"ஆமப்பா வாதமெண்பத்து நாலும்
அதினுடைய குணாகுணங்கள் அடங்களாகா"

-பக்கம்131

But while he described the diseases he had described 85 types of vatha diseases.

*According to "**Theraiyar Vagadam**" 81 types are classified,

"மடைவான எண்பத்தோர் வாதஞ்செய்யா இதன்
குணங்கள் அறிவோர் களறிவுளாரே"

-பக்கம் 70

*According to "**4448 viyadigal**" vatha diseases are classified as 84 types.

"விளம்பிடு வாத நோயு எண்பத்து நாலுமிக்க"

-பக்கம் 5

***In Theraiyar Vaidhya Kaviyam -1500**" Vatha diseases are classified as –"80" types.

"உறங்கும்வாத மொழிய எண்பதுக்கு"

-பக்கம் 89

*According to "Dhanvanthari Vaidhyam"T.V. Sambasivampillai Dictionary, Jeevarakshamirtham (Subramanya Pandithar), "Aathma Rakshamirtham Ennum Vaidhya Sara Sangiragam" Vatha diseases are classified as 80 types.

AETIOLOGY OF VATHA DISEASES:

According to Yugi Vaidhya Chinthamani,

"என்னவே வாதந் தாணென்பதாகும்
மிகத்திலே மனிதர்களுக் கெய்துமாரு
பின்னவே பொன் தனையே நேரம் செய்து
பெரியோர்கள் பிதாமணரைத் தூஷணித்தும்
வன்னவேவச் சொத்திற் சோரம்செய்து
மாதாபிதா குருவை மறந்து பேர்க்கும்
கன்னவே வேதத்தை நிந்தைசெய்த பேர்க்கும்
காயத்திற் கலந்திடுமே வாதந்தானே"

"தானென்ற கசப்போடு துவர்ப்புரைப்பு
சாதகமாய் மிஞ்சுகினும் சமைத்தவன்னம்
ஆனென்ற வாறினது பொசித்தலாலும்
ஆகாயத் தேறலது குடித்தலாலும்
பானென்ற பகலுறக்கமிரா விழிப்பு
பட்டினியே மிகவுறுதல் பாரமெய்தல்
தேனென்ற மொழியாற்மேற் சிந்தையாகில்
சீக்கிரமாய் வாதமது செனிக்குந்தானே"

"ஆனான வரன்றனையே மதியாமாந்தர்
அகதி பரதேசியர் கட்கன்னமீயார்
கோனான குருமொழியை மறந்தபேர்கள்
கொலைகளவு பொய்காமம் குறித்தபேர்க்கு
ஊனான சடந்தன்னில் வாதம்வந்து
உற்பவிக்கும் வேதத்தினுண்மை தானே"

பக்கம் 92

1. Abusing the elderly people and priests.
2. Exploitation of charitable properties.
3. Ingratitude with mother, father and teacher.
4. Breach of trust.
5. Over consumption of bitter, Astringent, salty substances.

6. Eating rancid food material.
7. Drinking rainy water.
8. Day time sleep.
9. Night awakening.
10. Undue Starvation.
11. Lifting over Weight.

Sarabendra Vaidhya Muraigal – Vatha Roga chikitsai describes the factors for vitiation of Val:

1. Excessive intake of too dry, hot and cold substances.
2. Lack of Food intake.
3. Excessive sexual indulgence.
4. Excessive awakening.
5. Diminished or Excessive intake in taking purgative or vomiting medication.
6. Excessive blood loss during medication.
7. Jumping, prolonged running, walking.
8. Extreneous work.
9. Weakness due to worry, diseased condition, exhaustion.
10. Suppression of 14 Vegas.
11. Indigestion.
12. Trauma.
13. Suppression of hunger.
14. History of Trauma during motor vehicle Accident.

In Pararasa Sekaram

“தொழில் பெறு கைப்புக் காந்தல் துவர்த்தல் விஞ்சும் சோறும்
படியதாம் வரகு மற்றப் பைந்தினை யருந்தினாலு
எழில்பெறப் பகலுறங்கி இரவினி லுறங்காதாலும்
மழை நிகர் குழலினாலே வாதங்கோபிக்குங்கானே
காணவே மிகவுண்டாலும் கருது பட்டினி விட்டாலும்
மானனை யார்கண் மோக மறக்கினு மிகுந்திட்டாலும்

ஆணவ மலங்கடம்மை யங்கனே விடாததாலு ம்
வாறுதன்மட நல்லாளே வாதங்கோபிக்குங்கானே

பக்கம் 59

1. Excessive Consumption of bitter, astringent substances and rancid food mateial.
2. Daytime sleep.
3. Night awakening.
4. Excessive food intake (voracious appetite).
5. Starvation.
6. Excessive sexual indulgence.
7. Fear.
8. Angry.
9. Worries.
10. Exposure to dry weather.

THALAI NOKKADU

According to Yugi Vaidhya Chintamani 10 types of Thalainokkadu are explained as follows.

“சிறியதோர் வாதத்தின் தலைநோக்காடு
பூணவே பித்தத்தின் தலைநோக்காடு
புகழான சேட்டுமத்தின் தலைநோக்காடு
காணசன்னீ வாதத்தின் தலைநோக்காடு
தருரத்த பித்தத்தின் தலைநோக்காடு
நோக்கான கிருமிகந்த தலைநோக்காடு
நுதற் சூரியவர்த்தமொடு சந்திராவர்த்தம்
ஊக்கான கர்னா வாதந்தன்னோடு
ஒருதலையின் அர்த்த வாதமுமேயாகும்”

- யூகி வைத்திய சிந்தாமணி பக்கம் 95

1. Vali thali nokkadu
2. Azhal thalai nokkadu
3. Sliethuma thalai nokkadu
4. Sannivatha thalai nokkadu

5. Raktha pitha thalai nokkadu
6. Kirumikantha thalai nokkadu
7. Suriyavartham
8.Chandra vartham
9. Karna vartham
10. Oruthalai vatha petham

In T.V.Sambasivampillai Dictionary

Pain in the head arising from various causes such as changes in the composition of blood, disorder of the nerves in the head and of the three humours in the system, action of the germs etc.

In Dhanvanthri Vaidhyam

"கதித்திடு மிரத்தந் தன்னைக் கலந்திடும் வாயுச் சென்னி
பதித்திடும் நரம்பிலேரி பதித்திடச் செவிகண் மூக்கு
விதித்தபல் பிடரிகுத்தி வேகமாய் நெற்றியுச்சி
யுதிர்த்தியாய்த் தலைவலிக்கும் சிரோக்ரஹ வாதமாமே"

பக்கம் 36

As per the above Quotation wind or vayu mix up with blood and spread to neurons and causing pain over the area of Ear , Eye , Nose , Teeth , Occipital region and also over the region of frontal, vertex and entire scalp**.**

Types of Thalai Nokkadu in various literatures:

In T.V. Sambasivam Pillai Dictionary 11 types are described.

1. Vatha Sirorogam
2. Pitha Sirorogam
3. Kapha Sirorogam
4. Sanni pathigam
5. Raktha sirorogam
6. Kshaya sirorogam
7. Kirumi Sirorogam
8. Surya Sirorogam
9. Anantha Sirorogam
10. Arthava Peda
11. Sangasam.

In Anubava Vaidhya Deva Ragasiyam 8 types are explained

1. Vatha Sirorogam
2. Pitha Sirorogam
3. Kapha Sirorogam
4. Sannipatha Sirorogam
5. Raktha Sirorogam
6. Kirumi sirorogam
7. Surya vartham
8. Anantha Vatha Sirorogam.

In Sarabendra Vaidhya Muraigal, 10 types are classified and explained.

1. Vatha Sirasthabam
2. Arthavabethagam
3. Pitha Sirasthabam
4. Kapha Sirasthabam
5. Ratha Sirasthabam
6. Sannibatha Sirasthabam
7. Kirumi Sirorogam
8. Sirakambarogam
9. Sangagam
10. Surya Vartham.

In Roga Nirnayasaram

1. Artha betharogam
2. Surya Vartharogam
3. Sangarogam
4. Sirakambharogam
5. Kirumi thalai vali
6. Udira thalai vali
7. Vatha thalaivali
8. Pitha thalaivali
9. Silethuma thalaivali
10. Tridosha thalaivali
11. Tharuna rogam
12. Uba sirisha rogam
13. Arumshigai rogam
14. Moortha peedaga rogam
15. Sirovithiradi rogam
16. Sirorputha rogam
17. Indralutha rogam
18. palidha rogam
19. Kaladi Rogam.

ORUTHALAI VATHA PETHAM

In Yugi Vaidhya Chinthamani.

"பகரான ஒருதலையைப் பாதி நொந்து
புகழிகொண்டு மௌலிதனைப் பிளந்தாற் போலே
நிகரான கண்ணு நீர் பாய்ந்துகாந்தி
நெடுமூச்சு விட்டுமே நினைந்து துன்பம்
திகரான சடந்தானும் திடுக்குண்டாகிச்
சிணுக்கிரும லாகியே பசிகாணாது
வகரான வாதமாய் மயிர்க் கூச்சாகும்
வாகாத பேதத்தோர் தலைவலி யுமாமே"

-யூகி வைத்திய சிந்தாமணி பக்கம் 128.

CLINICAL FEATURES:

1. Unilateral headache on one side of the head either right or left side.
2. Lacrimation.
3. Nausea and vomiting.
4. Dizziness.
5. Cough
6. Loss of appetite.
7. Insomnia.

AETIOLOGY OF THALAI NOIGAL:

In Udal thathuvam the author explained suppressions of 14 Vegas will produce the thalai noi.

Especially,

- Thummal,
- Malam
- Nithirai
- Vizhineer.

1. **THUMMAL(SNEEZING)**

"தும்மலை தடைதான் செய்தால்
தொகுத்திடும் தலைநோயுண்டாம்"

-பக்கம் 331

2. **MALAM(DEFAECATION):**

"மலமது யடக்கினாலே
தலைவலி மிகவுண்டாகும்"

- பக்கம் 333

3. **NITHIRAI (SLEEP):**

"நித்திரையடங்கி போக
நித்தமும் தலைகனப்பு"

-பக்கம் 334

3. **VIZHINEER(LACRIMATION):**

"விழியினில் நீரடக்கில்
அழுகிடும் சிரசில் ரோகம்"

-பக்கம் 336

In "Nagamuni thalai noi Maruthuvam",

"கனத்திடும் சுமையினாலும் கடுவெயிற் படுதலாலும்
நனைத்திடு மெண்ணெய்தன்னை நாட்பட முழுகலாலும்
புனக்கொடி மடனல்லாரை விடாதுரம் புல்கலாலும்
சினத்தடி படுதலாலும் சிரத்தினோய் சேருந்தானே
இருசெவி நாசியூடே ஈமுதல் ஏறினாலும்
முருகவிழ் குழலீர்கானற் சுனையிடை மூழ்கினாலும்
மருவிய லகரியேது மயலுர வருந்தலாலும்
சிரமிசை அனேகதோஷஞ் சேர்ந்திடுதிருவின் நல்லாய்"

பக்கம் 2

- ❖ Lifting heavy weight
- ❖ Exposure to scorching sun
- ❖ Avoiding Oil Bath
- ❖ Excessive sexual indulgence
- ❖ Angry
- ❖ Files,fomite enter into the ear,nose

- Taking bath in mountain spring water
- Intake of alcohol ,cannabis
- Worries

In Sarabendra Vaidhya Muraigal Siroroga Chikitchai:

- Fumes, Scorching sun
- Swimming too much of time
- Winter season
- Somnelance
- Suppression of tears
- Excessive intake of water and Liquor
- Infection
- Suppression of 14 Vegas especially Sneezing,Belching
- Using high Pillows
- Avoid to take oil bath
- Worries, Sorrow
- Smelling Fragrance
- Excessive food intake.

MUKKUTRA VERUPADUGAL:

"காற்றுறு கோபித் தால்வாய் கசப்பில்லா தினிப்புப்பெய்தும்
தோற்றுறு புத்தி மந்தஞ் சொல்லுரை காட்டும்
தேற்றுறு வாய்மை நீக்குஞ் சிரரோகக் கோபமுண்டாம்
கூற்றுறு காலமான குணமும் நற்குணமும் பண்பாம்"
அங்காதி பாதம் பக்கம் 65

As per above stanza vali is said to be phenomenon responsible for causing Oruthalai vatha petham .Excessive accumulation of humour is vali or wind causing accumulation fluid in the cavity and producing pain over the head.

Praanan, Viyanan & Uthanan are affected and producing the symptoms and signs of Oruthalai vatha petham. Pranan is mainly responsible for respiration, passing food material in GIT i.e., peristalsis, refluxes like sneezing and coughing. Viyaanan is mainly responsible for locomotion, free movements of all Organs.Udanan is mainly responsible for consciousness, personality maintenance and also for sneezing and cough reflux.

Oruthalai vatha petham is responsible for the healthy maintenance of every tissue of the body and its variation results in inflammation changes in bony cavity and cartilages.

In which sathaga pitham is deranged in Oruthalai vatha petham.

The deterioration of the two main kutram may also accompany derangement of lyakutram leads to structural changes in the bony cavity.

Disturbance in mukkutram produce different clinical manifestations. These include unilateral headache, nausea, vomiting, photophobia and phonophobia, due to disturbed vali.

Normal structural and physiological state of the body is maintained by equilibrium with mukkutram and seven udarkattukkal.

As the udarkattukkal are affected by the extrinsic and intrinsic factors. There will be deterioration in the structural and functional status of the body.When the causative factors take hold of udarkattukkal and mukkutram is result inco - ordination of functions there by the disease manifest and expose its Clinical Features.

PINIYARI MURAIMAI (DIAGNOSIS)

The methodology of diagnosing in Siddha system is very unique. It is based on the 3 main principles.

1. Poriyal therthal
2. Pulanal therthal
3. Vinathal

PORIYAL THERTHAL: (sensory organs)

- Nose
- Tongue
- Eye
- Skin
- Ear

PULANAL ARITHAL:

- Smell
- Taste
- Vision
- Touch
- Sound

VINATHAL:

"Vinathal" simply represents the interrogation. It obtains the detailed history of the diseases and such way easy diagnosis is made even clinical examinations are carried cut. By this gathering the history of diseases, Complaints and duration, family history, personal history, clinical features are rulled out. Patient name, age sex, occupation, address, socio-economic status, chief complaints are rulled out.

ENVAGAI THERVUGAL

The classical method of clinical examination in our system is knows as "Envagai thervugal"

Various literature explains about envagai thervugal is the best method to obtain the correct data of the clinical entity.

In Dhanvanthri Vaidhyam

"திருமுறை முனிவன் கூறும் வாகடச் செய்கை தன்னில்
வருபல வியாதியான வகையறி குவதே தென்னில்
வருவுறு நாடி யாலு மொண்முக மல நீராலும்
தெரிவிழி நாவினாலும் தந்தலக் கணத்தினாலும்"

-தன்வந்திரி வைத்தியம் பக்கம் 2

In Agathiar naadi

"நாடியால் முன்னோர் சொன்ன நற்குறி குணங்களாலும்
நீடிய விழியினாலும் நின்ற நாக் குறிப்பினாலும்
வாடிய மேனியாலு மலமொடு நீரினாலும்
சூடிய வியாதி தன்னைச் சுகம் பெற வறிந்து சொல்லே"

- நோய் நாடல் நோய் முதல் நாடல் பக்கம் 129

In Gunavagada Naadi

"தரணியுள்ள வியாதி தன்னை யட்டாங்கத்தால்
தானறிய வேண்டுவது யேதோ வென்னில்
திரணியோதார் நாடி கண்கள் சத்தத்தோடு
தேகத்தினது பரிசம் வருணம் நாக்கு
இரணமல மூத்திரமா மிவை களெட்டும்
இதம்படவே தான் பார்த்துக் குறிப்புக்கண்டு
பரணருளால் பெரியோர்கள் பாதம் போற்றிப்
பண்பு தவறாமல் பண்டிதஞ் செய்வீரே"

- நோய் நாடல் நோய் முதல் நாடல் பக்கம் 129

In Theraiyar,

"நாடிப் பரிசம் நா நிறம் மொழி விழி
மலம் மூத்திரமிவை மருத்துவராயுதம்"

-நோய் நாடல் நோய் முதல் நாடல் பக்கம் 253

As per the above literature "Envagai Thervugal" which consists of 8 Diagnostic parameter is the best method for diagnostic procedure.

The parameters are,

- Naadi
- Sparisam
- Naa
- Niram
- Mozhi
- Vizhi
- Malam
- Moothiram.

Sl.No	Envagai Thervu	Character	In Oru Thalai vadhapetham
1.	Naadi		Kaphavatham Vathapitham Pithavatham
2.	Sparisam	Touch Pain Temperature	Unilateral headache
3.	Naa	Colour Coated Taste	Coated.
4.	Niram	Skin colour	normal
5.	Mozhi	Articulation and speech	No abnormalities in speech.sama oli.
6.	Vizhi	Niram	No abnormalities
7.	Malam	Niram-colour Irugal Ilagal-consistency Manam-smell	constipation
8.	Moothiram	Niram-colour Manam-smell Nurai-forth Eadai-specific gravity Enjal-deposit	No abnormalities.

Moothiram:

"அருந்துமாறி ரதமும் அவிரோததமதாய்
அகல் அலர்தல் அகாலவூன் தவிர்ந்தழற்
குற்றளவருந்தி உறங்கி வைகறை
ஆடிக்கலசத் தாவியே காது பெய்
தொருமுகூர்த்தக் கலைக்குட்படு நீரின்
நிறக்குறி நெய்க்குறி நிருமித்தல் கடனே"

-நோய் நாடல் நோய் முதல் நாடல் திரட்டு பக்கம் 265

Before the urine sample were collected for urine analysis patients was advised to take a balance diet and good sleep. Early morning samples were collected when the patients getup from the bed.

Mid stream urine is collected for avoidance of extraneous materials from the first flow of urine.

Moorthiram examination includes,

1.Neerkuri

2.Neikuri

This can be done with in one and half an hour collected of urine sample.

NEERKURI:

"வந்த நீர் கரிஎடை மணம் நுரை எஞ்சலென்
ரைந்திய லுளவளை யறை குது முறையே"

-நோய் நாடல் நோய் முதல் நாடல் பக்கம் 265 பாகம் 1

Niram	-	Colour of urine
Edai	-	Specific gravity of Urine
Manam	-	Odour of urine
Nurai	-	Frothy nature of urine
Enjal	-	Deposits of urine

NEIKURI:

The urine samples are collected as per Neerkuri method.

A drop of gingely oil is dropped on the urine sample kept in the sunlight and left it to be undisturbed.

Neikuri is observed by spreading nature of oil in the urine sample.

“நிறக்குறிக் குரைத்த நிருமாண நீரில்
சிறக்கவெண்ணெய் யோர் சிறுதுளிநடுவிடுத்
தென்றுறத் திறந்தொலி யெக தமைத்ததி
நின்றதி வலைபோம் நெறி விழியறிவும்
சென்றது புகலுஞ் செய்தியை யுணரே’

-நோய் நாடல் நோய்முதல் நாடல் பக்கம் 279 பாகம் 1

In Vali neer:

The drop of oil spreads like serpent it indicates vali neer.

“அரவென நீண்டின் அஃதே வாதம்
அணுகு நெய் பாம்பிற் காணில் அனில நோய்”

- நோய் நாடல் நோய்முதல் நாடல் பக்கம் 279 பாகம்

In Azhal Neer:

The drop of oil spreads like signet ring. It indicates Azhal neer.

“ஆழிபோல் பரவின் அஃதே பித்தம்
வட்டமாயின் தணிவிலாப் பித்த நோயாம்”

-நோய் நாடல் நோய்முதல் நாடல் பக்கம் 279 பாக1

In Iya neer:

The drop of oil spreads likes pearls it indicates Iya neer,

“முத்தொத்து நிற்கின் மொழிவதென் கபமே”

- நோய் நாடல் நோய்முதல் நாடல் பக்கம் 280 பாகம்

In Thontha neer:

The drop of oil spreads like ring in the snake, snake in the ring, pearl in snake, pearl in the ring indicates Thontha neer,

"அரவின் முத்தும் ஆழியில் முத்தும்
தோற்றில் தொந்த தோடங்களாமே"

-நோய் நாடல் நோய்முதல் நாடல் பக்கம் 280 பாகம் 1

NAADI:

Naadi is the best parameter in all parameter of Envagai thervu. Naadi diagnosis is the confirmatory diagnosis. This method reflects the characters of 3 humours by palpating the artery especially radial artery in the right hand of male and left of female.

The only method gives a good conclusion about the disease without any help of patients. It is the bounding force between the soul and body.

Naadi is felt as Vali, Azal and Iyam respectively with the tip of the index, middle and ring finger over the lower end of the radius.

The ratio between the Vali, Azhal, and Iyam are 1:1/2:1/4 respectively.

Naadi Nadai in ORUTHALAI VATHA PETHAM - **KAPHA VATHAM**

"கண்டாடோ சிலேற்பனத்தில் வாத நாடி
கலந்திடுகில் வயிறு பொருமல் கனத்தவீக்கம்
உண்டாலோ ஓங்காரஞ்சக்தி விக்கல்
உறுதிரட்சை வாய்வுவலி சன்னிதோடம்
விண்டாலே யிளைப்பிருமல் சோபை பாண்டு
விடபாகம் விட சூலை பக்கவாதம்
திண்டாடு நாசிகாபீ டங்கக்கல்
சிர நோய்கள் பலவும் வந்து சிக்குந்தானே"

-நோய் நாடல் நோய்முதல் நாடல் பக்கம் 175 பாகம் 1

Envagai thervugal are the most used Diagnostic implements in Siddha system of medicines. Besides envagai thervugal, a disease can also be diagnosed by other methods namely,

Thinaigal, paruvakkaalangal, Uyirthathukkal, Udal thathukkal and Poripulangal. Combination of all these diagnostic criteria are very helpful to attain a proper diagnosis with complete entity based on principles of siddha science.

Siddhars classified a year into six seasons (i.e., Paruvakaalam) each constituting two months. The humoural theory (i.e., vatha pitha, kapham) has got some changes in paruvakkalam, (Thannilai valarchi, vetrunilai, Thannilai adaithal) the humoural changes in paruvakkalam causing certain diseases. Study of it will be of much use for diagnosis.

NOI KANIPPU VIVATHANGAL:

S.NO	Disease	Similar Symptoms	Disimilar Symptoms
1.	Vatha thalai nokkadu	Pain in the nose and forehead, earpain.	Occipital head ache ,psychological disturbances
2.	Pitha thalai nokkadu	Pain in the eyebrows and ear.	Rhinitis, heaviness of head, increased salivation, throat pain, pain in the ear.
3.	Kapha thalai nokkadu	Head ache	Paleness, fever, loss of taste, anorexia, it occurs due to increased intake of cold water ,going to sleep immediately after taking food.
4.	Sannivatha thalai nokkadu	Head ache, ear pain	Psychological disturbances, tightness of chest, dysphonea, loss of speech, worms moving sensation in skin loss of consciousness
5.	Raktha pitha thalai nokkadu	-	Coldness, increased thirst, hair goose, numbness, Epistaxis, Bleeding from ear and mouth, twitching, breathing will be slow, blackening of body.
6.	Kirumi Kantha thalai nokkadu	Frontal headache, pain in the nasal bridge and orbital margins, Increased salivation	Body pain, throbbing pain in upper and lower limbs, worms will comes out which look like Nanal poo.
7.	Suriyavartham	Pain in medial canthus of eye brows	Constricted pupil, heaviness of the body, pain reduced in evening time.
8.	Chandravartham	Sneezing, nasal congestion, pain in frontal region	Anosmia, pain aggravates during night time and relieved during day time.
9.	Karnavartham	Ear pain, frontal pain	Chest pain, Occipital pain, vertex pain, Loss of appetite, Insomnia

S.NO	KAALAM	KUTRAM	SUVAI
1.	Kaar Kaalam(Avani to puratasi) (August to October)	Vatham increased Pitham increased	Inippu Pulippu Uppu
2.	Koothir Kaalam(Iyppasi to Karthigai) (October – December)	Vatham (-) Pitham increased	Inippu Kaippu Thuvarppu
3.	Munpani Kaalam (Margazhi to Thai) (December – February)	Pitham (-)	Inippu Pulippu Uppu
4.	Pinpani Kaalam (Maasi to Panguni) (February – April)	Kapham increased	Inippu Pulippu Thuvarppu
5.	Elaveni Kaalam(Chitthirai to Vaigasi) (April – June	Kapham increased	Kaippu Karppu Thuvarppu
6.	Muthuvenir Kaalam(Aani to Aadi) (June –August)	Kapham(-) Vatham increased	Inippu

Accumulation (Thannilai valarchi)

Aggravation (Vetrunilai valarchi)

(-) Alieviation (Thannilai adaithal)

The prevalence of Oruthalai vatha petham is more in muthuvenir, and Kaar kaalam.

THINAIGAL - LANDS:

Thinaigal affects the person as same as in paruvakkalam.

It has classified into 5 types depending on the surroundings, vegetation, landscape and ecological state and occupation status.

Neithal Nilam is the most prevalence of Oruthalai vatha petham.

S.NO	Thinaigal	Area	Common Diseases
1.	Kurinji(Hilly Tract)	Mountain and its surroundings	Iya diseases, Liver diseases
2.	Mullai-(Sylvian Tract)	Forest and its surroundings	Azhal, Vali, Liver diseases
3.	Marutham(Fertile Area)	Field and its surroundings	Ideal place for healthy living
4.	Neithal(Coastal Area)	Sea and its surroundings	Vali, Liver diseases
5.	Paalai-(Arid area)	Dissert and its surroundings	Vali, Azhal,Iya diseases

UDAL VANMAI:

Siddhars classified the Udal vanmai into three kinds.

They are,

- ❖ Iyarkai Vanmai - One can acquire immunity by birth.
- ❖ Kaala Vanmai - One can acquire immunity at his different age and different seasons.
- ❖ Seyarkai Vanmai - One can acquire immunity through taking balanced diet, good activities and preventive medication.

UYIR THATHUKKAL:

Basic principle of siddha science is Uyirthathukkal. The equilibrated state of Uyirthathukkal indicates their importance in the maintenance of health.

Disturbances in equilibrated state leads to development of diseases in the body.

Vali - Substantative function
Azhal - Correlative function
Iyam - Generative function

Three vital humours occupy the lower, the middle and upper part of the body.

The Vaayu (or) Vatha refers to all the changes which comes under the functions of central and sympathetic nervous system. The word pitha signifies the function of thermogenesis or heat production and metabolism. Kapha signifies the function of thermotaxis or heat regulations, Vatha, Pitha, Kapha act upon each and every cells in the body.

VALI (or) VAAYU

Vali is not mere wind but also causes motion, energy and sensation of every cell in the body. It is responsible for all movements of the body. Simply life energy is Vatham. Vali controls both kanmendhriyam, Gnanendhriyam, Locomotor function through voluntary muscles are governed by Kanmendhriyam and sensory functions are governed by Gnanendhriyam. Vatha pitha, Kapha act upon each and every cells in the body. The 3 humours acts on nervous system via neurons control and responds to various stimuti. Vali controls nervous system through "Dhasa Vayu".

Seats of Vali:

Below the naval region i.e., Urinary Bladder, Motion, Spermatic cord, Umbilical cord, Thigh Bone, Skin, Nerves, Joints, Muscles, Hair Follicle, Pelvis and Ear.

Properties of Vali:

"ஒழுங்குடன் தாதேழ் மூச்சோங்கி இயங்க
எழுச்சிபெற எப்பணியு மாற்ற எழுந்தரிய
வேகம் புலன் களுக்கு மேவச் சுறுசுறுப்பு
வாகளிக்கும் மாந்தர்க்கு வாயு"
-சித்த மருத்துவாங்கச் சுருக்கம் பக்கம் 140

- Regulating inspiration and Expiration
- Making Briskness.
- Regulation of 14 Vegas.
- Make the uniform functioning of seven udal kattukkal.
- Protection and strengthening of five sensory organs.

Qualities of Vatham:

"வாதங்கருமை வறட்சியுடன் நொய்மை
சீதமுஞ் சலனம் சிதறணுவு -ஏதமுடன்
இக்குணத்தோ டுற்றே யியக்கந் தருமளவிற்
தக்க பரிகாரந் தா"

- கண்ணுசாமியம் பக்கம் 21

1. Dryness	2.Roughness
3. Subtlety	4.Coolness
5. Mobility	6.Lightness

Opposite Qualities:

"வாதகுண மாறுக்கு மாறுகுண மேனோக்கின்
ஒதமிரு தீரும் உயிர் பாரம் போதரவா
யுள்ளதீ யோடுறுதி யிற்றுத் திரளாக
உள்ள குணத்தையே யூட்டு"

- கண்ணுசாமியம் பக்கம் 22

1. Stability	2.Heaviness
3. Hot	4.Solidity
5. Softness	6.Unctuousness

VARIETIES OF VATHA:

"முறையாம் பிராணணோ டபானன் வியானன்
மூர்க்கமா முதானனொடு சமானனாகும்
திறமையா கூர்மனொடு கிருகரந்தான்
தேவதத்தனோடு தனஞ் செயனுமாகும்"

- சித்த மருத்துவாங்க சுருக்கம் பக்கம் 140

Vatha consists of 10 vayu. It is functioning through dhasa vayu.

S.NO	Classification of Vatham	Functions	In oruthalai vatha petham
1.	Praanan	It is mainly responsible for respiration and it is necessary for proper digestion and utilisation of food materials.	Normal
2.	Abanan	This is mainly responsible for all downward movements such as passing urine,stool,semen,menstrual flow etc.,	constipation
3.	Viyanan	It is responsible for sense of touch, extension and flexion of part of the body and distribution of the nutrients to various part of the body.	Lethargic
4.	Uthanan	Responsible for all upward visceral movements such as nausea,vomiting etc.,	Nausea and vomiting.
5.	Samanan	The aid in proper digestion and it controls the other types of vaayu.	Loss of appetite
6.	Nagan	Helps in opening and closing of the eyelids.	Normal
7.	Koorman	Responsible for vision, lacrimation and yawning.	Lacrimation.
8.	Kirukaran	Inducing appetite, salivation, all secretions in the body including nasal secretion and sneezing.	Loss of appetite and excess salivation.
9.	Devathathan	Induces and stimulates a person to become alert, get anger,to quarrel to sleep.	Insomnia.
10.	Thanajayan	Produces bloating of the body after death.it escapes on third day after death bursting out of the cranium.	-

AZHAL

It has to be mean the functions of correlative. Secondarily mean gastric juice, bile, energy, inflammation anger, irritation.

SEATS OF AZHAL:

Pingala, Pranavayu, Bladder, Heart, Head, Umbilicus, Navel, Stomach, Sweat, Saliva, Blood, Eye, & Skin.

FUNCTIONS OF AZHAL:

- It promotes metabolism.
- Enhances haemopoietic action.
- Activate sweat gland secretion.
- Make the substances to be bitter & sour taste.

According to place, function Azhal can be named as follows :

- Anal pitham
- Ranjaga pitham
- Saathaga pitham
- Aalosaga pitham
- Praasaga pitham

VARIETIES OF PITHAM:

S.no	Name	Function	In Oruthalai Vatha Petham
1.	Analagam	It promotes appetite and helps indigestion.	Loss of appetite
2.	Ranjagam	It is responsible for the colour and contents of blood.	Normal
3.	Saathagam	It controls the whole boody and is held responsible for fulfilling a purpose.	Lethargic
4.	Aalosagam	It is responsible for the perception of vision.	photophobia
5.	Praasagam	It gives complexion to the skin.	Normal.

IYAM

Not only mean phlegm but it really has to be taken to mean the function of thermotaxis or heat regulations. It may secondarily mean the formation of various preservative fluids viz. Mucous, Synovial fluids.

SEATSOFIYAM:

Samana vayu, semen, tongue, uvula. Bone marrow, fat, blood, nose, chest, nerves, bones, brain, large intestine, eye & joints.

FUNCTION OF IYAM:

- Mucosal defence.
- Perceives taste sensation.
- Make the body become cool.
- Movements of the joint.

VARIETIES OF IYAM:

S.No.	Name	FUNCTION	IN ORUTHALAI VATHA PETHAM
1.	Avalambagam	Lies in respiratory organ, controls the heart and other kaphams.	Normal.
2.	Kilethagam	Lies in stomach make the food moist, soft and helps indigestion.	Loss of appetite.
3.	Pothagam	Responsible for the sensory perception of taste.	Normal.
4.	Tharpagam	Present in the head and responsible for coolness of both eyes.	Lacrimation and photophobia.
5.	Santhigam	Responsible for lubrication and the free movement of the joints.	Normal.

UDAL KATTUKKAL:

SL.NO	SAPTHA THATHUKKAL	FUNCTIONS	IN ORUTHALAI VATHA PETHAM
1	Saaram	It is responsible for growth & development.it keeps in good sprit and it nourishes the blood.	Tiredness
2.	Seneer	Blood imports colour to the body&nourishes the musclr responsible for the ability, intellectual of the individual.	Normal
3.	Oon	It gives shape to the body according to the requirement for the physical activity, nourishes fat and give plumness.	Normal
4	kozhuppu	It helps lubrication of different organs.	Normal
5.	Enbu	Supports &responsible for posture and movements of the body.	Normal
6.	Moolai	It fills the bony cavity and gives nourishment.	Normal.
7.	Sukkilam/suronitham	It is responsible for reproduction	Normal

GNANENDHRIYAM:

Mei	:	Somatic sensation from skin through vaayu
Vai	:	Taste sensation from tongue through Appu
Kan	:	Vision from eye through Theyu
Mooku	:	Smell sensation from nose through pirithvi.
Sevi	:	Hearing from ear through Akaayam.

In case of Oruthalai vatha petham Mei is affected in all cases unilateral headache and also kann is affected in many cases lacrimation and photophobia.

KANMENDHRIYAM:

Kai	:	Majority of works done by hands.
Kal	:	For walking.
Vai	:	For Speaking.
Eruvai	:	For defaecation.
Karuvai	:	For reproduction.

In case of Oruthalai vatha petham, Eruvai is affected in few cases due to constipation.

PININEEKAM:

The only system which dealt both body and mind is siddha system.

In Thirukkural, Thiruvalluvar explained the disease and its prevention and diet regime.

They are,

“மருந்தென வேண்டாவாம் யாக்கைக்”

“அற்றாலள வறிந்துண்க வஃப்துடம்பு”

“அற்றதறிந்து கடைப்பிடித்து மாறல்ல”

“மாறுபாடில்லாத உண்டி மறுத்துண்ணீ

“இழிவறிந்துண்பான் கணின்பம் போனி”ற்கும்

Pini neekam is not only for removal of the diseases also for preventions and improving the body condition.

In consist of,

1. Kaapu
2. Neekam
3. Niraivu

KAAPU (PREVENTION):

"மருந்தென வேண்டாவாம் யாக்கைக்கு அருந்தியது
அற்றது போற்றி உணின்"

"எதிரதாக் காக்கும் அறிவினார்க் கில்லை
அதிர வருவதாம் நோய்"

- திருக்குறள்

Preventive aspect is very much stressed in all siddha literature.

"முக்கால் மலமது பொல்லாத வாய்வு மூன்று தும்மல்
சிக்கா மலாறு சலதரை விட்டுச் சிறு நடையும்
மைக்காடு கொண்ட விழியாய் மனிதர்க்கு வாய்ப்பதெனில்
எக்கால மும்பிணி வாராது; காயம் இரும் பொக்குமே"

- சித்த மருத்துவாங்கச் சுருக்கம் பக்கம் 192

These denotes Siddhar's giving more important to preventive aspect.

NEEKAM:

A good physician should know about the derangement of kutram and should treat the patients on the basis of altered kutram.

Treatment is based on,

- ✓ To bring the tridosha to normal.
- ✓ To treat the disease according to its symptoms through medicines.

- ✓ To increase the natural immunity.

Four requisites of successful treatment are explained by "Thiruvalluvar"

"உற்றவன் தீர்ப்பான மருந்துழைச் செல்வானென்று
அப்பனாற் கூற்றே மருந்து"

It is also said in "Theriyar Venba" as,

"நோயாளி பண்டிதனந் நோய்க்கு மருந்திடைய
நேயான நால்வரி டமாகும்-தூயமருந்
திண்குணமென்றா தியம்பினா ராகமத்தின்
நற்குணமா யோதுகிறேன் நான்"

- பக்கம் 150

MANAGEMENT:

The following medicines are given to Oruthalai vatha petham patients-

1.Sathikkai podi – 500mg.with milk 2 times a day after food.

2.Vettiver thylam - 15ml.for bath once in 4 days.

ANUPANAM:

அனுபானப் பெருமை:

"அனுபானத் தாலே யவிழ்தங்கட் காண்மை
கனமாகு மென்மை யெல்லாம் காட்டும்-இனமான
பேதாபே தங்களெல்லாம் பேதித் தறிந்தவரே
நாகாக்க என்னுமறை நூல்"

-தேரையார் வெண்பா பக்கம் 158

Anupanam also known as "Thunai Marunthu" is commonly translated as vehicle, adjuvant, supporting, concurrent drug therapy. In siddha system of medicine the adjuvant is one of the most important things during therapy.

"அனுபானத்தாலே யவிழ்தம் பலிக்கும்
இனிதான சுக்கு கன்னல் இஞ்சி பினுமுதகால்

கோமேயம் பால் முலைப்பால் கோ நெய் தேன் வெற்றிலை நீர்
ஆமிதை யாராய்ந்து செய்யலாம்”

-தேரையார் வெண்பா பக்கம் 210

The above stanza represents the substances commonly used as anupanam.

PATHIYAM:

During the coarse of treatment the patients are advised to take following diet items and omit some of food items and physical activities. The form of medical advice in Siddha system of medicine is termed as pathiyam which is very important in siddha system of medicine.

“ பத்தியனத்தினாலே பலனுண்டா கும்மருந்து
பத்தியங்கள் போனாற் பலன்போகும் - பத்தியத்திற்
பத்தியமே வெற்றிதரும் பண்டிதருக் காதலினாற்
பத்தியமே யுத்தியென்று பார்”

- தேரையார் வெண்பா பக்கம் 159

“பத்தியத்தா லுண்டாகும் பண்டிதற்குப் பேராண்மை
பத்தியதா லுண்டாகும் பண்டிதங்கள்”

-தேரையர் வெண்பா பக்கம் 212

The pathiyam commonly told in siddha literatures are,

Kadum pathiyam
Miga kadum pathiyam
Ichcha pathiyam
Uppilla pathiyam

In Theraiyar Venba,

இலவணம் புளிகடு வெண்ணாலு முதலாக
ஒவ்வொரு குணமா யொழிவாய் -நவிலிறைச்சி
கூழ்ப்பாண்ட மச்சம்பெண் கோத்திரங்கொள் பிரமபத்ரி
தீழ்ப்பாகு மெத்தவிதுசீ

-பக்கம் 213

DIET:

In patharthaguna chinthamani, the following diets are advised to vatha patients.

செங்கழு நீர்கோட்டந் தேன் மிளகு நல்லெண்ணெய்
தங்கு பெருங்காயந் தழுதாழை எங்கெங்கும்
கூட்டுசிறு முத்து நெய் கோதில் உளுந்திவைகள்
வாட்டும் அனிலத்தை மதி

-பக்கம் 369

NIRAIVU (Medical advices)

- ✓ All of them are advised to leave away from polluted area.
- ✓ All of them are advised to do yogasanas.
- ✓ Advised to drink and bath in warm water.
- ✓ Advised to lead a stress and strain free life.
- ✓ Advised to take head bath with medicated oil once in 4 days in Luke warm water.
- ✓ The hair should be dried well after the bath.
- ✓ Advised to avoid day time sleep, especially after taking bath.
- ✓ Advised to avoid inhalation of dust fumes, and aromatic substances.
- ✓

YOGA:

Yoga means union. Yoga makes reunion of the embodied individual with the universal soul. This is the goal of human life and endeavour.

Yogic way of life helps a person directly to hold his physical forces in balance and indirectly his mental and spiritual powers.

Asanas, Mudras, Bandhas, Kriyas and Pranayama besides the self-imposed restrictions constitute the physical basic of yoga. The practices train the body and mind for spiritual perfection.

Yoga practice will tone up the nervous, lymphatics, and muscular systems and keep them in perfect health. The respiratory muscles become strong and the respiratory passage will be cleared of all impurities.

Minor structural and functional defects of the body will be rectified by the systematic practice of yogasanas and breathing practice.

The following Asanas are for Oruthalai vatha petham patients,

1. Sarvangasana
2. Yogamudhra
3. Savasana
4. Viparitha Karani
5. Halasana
6. Usartarsana
6. Vachirasana
7. Mahamudhra
8. Patchimothasana
9. Pranaayama
10. Suryanamaskar.

ANATOMY

The brain is well protected by,

- ❖ The scalp
- ❖ The skull
- ❖ The dura

A tough 3 layer sheath that surrounds the brain and spinal cord. The layers are dura (strongest), arachnoid (middle) ,and pia (closest to the brain).

The brain is complicated structure containing many parts.

These includes,

CEREBRUM:

- It is made up of two cerebral hemispheres that are connected in the middle.
- It is the largest part of the brain.
- Each area of the cerebrum performs an important function, such as language or movement.
- Higher thought (cognition) comes from the frontal cortex (front of the cerebrum).
- Outside of the cerebrum are blood vessels.
- There are fluid filled cavities and channels inside the brain.

CEREBELLUM:

- Located in the lower, back part of the skull.
- Controls movement and co-ordination.

BRAINSTEM & PITUITARY GLAND:

- Responsible for involuntary function such as breathing, body temperature and BP regulation.
- Pituitary gland is the “maestro gland” that controls other endocrine glands in the body, such as thyroid and adrenal glands.

CRANIAL NERVES:

12 large nerves exist the bottom of the brain to supply function to the senses such as hearing, vision and taste.

CEREBRAL BLOOD VESSEL:

- Complicated system that supplies oxygenated blood and nutrients to the brain.
- The blood supply to the brain is devided into 2 main parts

Anatomical cerebral circulation

- The front of the brain is supplied by the paired carotid artery in the neck.

Post cerebral circulation:

- The back of the brain is supplied by the paired vertebral artery in the spine.

PAIN SENSITIVE STRUCTURE OF THE HEAD

Pain sensation from the forehead, orbit, anterior and middle fossae of the skull and upper surface of the tentorium are conveyed to the brain through the trigeminal nerve.

Pain from the posterior fossa and inferior surface of the tentorium is conveyed to the brain through the glossopharyngeal, vagus and the first three cervical nerves.

As a result of the innervations of the duramater and its vessels, the pain from supratentorial structure is referred to the anterior two-thirds of the head by the trigeminal nerve and pain from the infratentorial structure is referred to the back of the head and neck by the upper cervical roots.

The glossopharyngeal and vagus nerves refer pain to the ear and throat.

Dilatation of intracranial or extra cranial arteries causes pain and is referred to the eye, forehead, temporal and same side.

Sorbitrate (coronary dilators) and nitrites present in the some food items cause dilatation and pain. Similar mechanism occurs in hypertensive headaches with extreme rise in blood pressure.

Pain is experienced in the immediate neighbourhood of the extracranial artery when it is inflamed or distended.

Stretching of the periosteum evokes pain locally.

Pain is nasal sinuses is evoked by irritation of pain sensitive sinus walls and is further increased by pressure in the sinus cavity due to discharge.

HEADACHE

DEFINTION:

Headache is one of the most common and frequent complaints. It is usually a benign Symptom and only occasionally it is manifestation of a serious illness, such as brain tumour or giant cell arteritis.

Most headaches are dull, deeply located and of aching character. A throbbing headache with tight muscles about the head, neck, and shoulder girdle suggest activation of intra and extra cranial arteries and skeletal muscle surrounding the head and neck by a generic head pain generating mechanism.

Headache may originate from either of the two mechanisms:

1. Pain commonly results from activation of peripheral nociceptors in the presence of normally functioning nervous system.

2. Injury or activation of the peripheral or central nervous system.

Pain sensitive structures:

Scalp, aponeurosis, middle meningeal artery, dural sinuses, falx cerebri, and the proximal segments of large pial arteries.

Pain insensitive structures:

Most of brain parenchyma

Ventricular ependyma

Choroid plexus

Pial veins

There is a midbrain locus for generation of headache.

Mechanisms of production of Headache:

Headache can occur as a result of

1. Distention, traction or dilatation of intra cranial or extra cranial arteries.

2. Traction or displacement of large intra cranial veins of their dural envelope.

3. Compression, traction or inflammation of cranial and spinal nerves.

4. Spasm, inflammation and trauma to cranial and cranial muscles.

5. Meningeal irritation and raised ICT.

6. Perturbation of intracerebral serotonergic projections (especially during a febrile illness, SLE, cerebral ischaemia or when pressure is reduced in benign ICT).

Intracranial masses cause headache by deforming, displacing or by exerting traction on vessel, dural structures or cranial nerves at the base of the brain. This happens long before ICT develops.

Headache caused by systemic illness:

The following diseases characteristically present with headache:

- Infectious mononucleosis
- Systemic lupus erythematous
- Hashimoto's thyroiditis
- Drugs (oral contraceptives, ovulation promoting drugs, glucocorticoid withdrawal)
- Inflammatory bowel disease
- HIV associated illness
- Malignant hypertension, phaechromocytoma.

Common type of headache:

Migraine

Cluster headache

Tension headache

Giant cell arteritis

Lumbar puncture headache

- **Cluster headache**:

  Site: orbital or temporal region.

  Age and sex: All ages above 10; mainly in men; provoked by alcohol.

  Clinical features:

  Periodic attacks of 1-2 episodes per day; often nocturnal; duration- 45 minutes; associated with red eyes and stuffy nose; daily attacks for 6 weeks annual recurrence.

- **Tension headache:**

  Site: Generalised

  Age and sex: young adults, especially females.

  Clinical features;

  Tight band like discomfort occurs in cycles of several years.

- **Giant cell arteritis**:

  Site: lateralised, temporal or occipital.

  Age and sex: over 55 years; either sex

  Clinical features:

  Scalp tenderness with superimposed jabbing and jolting pain lasting for weeks to months.

- **Lumbar puncture headache:**

  Site: Bifrontal or bioccipital.

  Age and sex: over 10 years; either sex.

  Clinical features:

  Orthostatic; present during sitting or standing and disappears during prone or supine positions. Persist for 3-4 days.

Mixed headache syndrome:

Also called transformed migraines, mixed headache syndrome is a combination of migraine and tension headaches. Both adults and children experience this type of headache.

- **Sinus headache:**

  Sinus headaches are associated with a deep and constant pain in the cheekbones, forehead, or bridge of the nose.The pain usually intensifies with sudden head movement or straining and usually occurs with other sinus symptoms, such as nasal discharge, feeling of fullness in the ears, fever, and facial swelling.

MIGRAINE

DEFINITION:

This is a form of recurrent paroxysmal headache often confined to one side of the head beginning in childhood to adult life.The word Migraine derived from hemicranias (pain on 0ne side of the head) ,hemi (half); crania (skull).

PATHOGENESIS:

Migraine is believed to be a disturbance of the carotid and vertebrobasilar system together with neurotransmitter system.Both intra-extracranial vessels participates in the process.

Initially there is vasoconstriction which leads to cortical and brainstem ischaemia resulting in “aura”. This is soon followed by vasodilatation of the extracranial blood vessels which causes stretching and irritation of the nerve endings in the arterial wall which causes headache. This may be followed by muscular contraction which maintains and prolongs headache.

Before actual headache starts there is a rise of serum 5-hydroxytryptamine (serotonin) level which is a neurotransmitter. Apart from serotonin, noradrenaline, substances p are also other neurotransmitters which are involved in the process. There is release of neuropeptidase acting on the neurotransmitter of the trigeminal

nerve leading to an inflammatory process. Another possible mechanism is activation of the dorsal raphe nucleus. Multiple genetic and environmental factors are related to electrical and vascular changes which either singly or in combination may be responsible for the episode.

PREDISPOSING FACTORS:

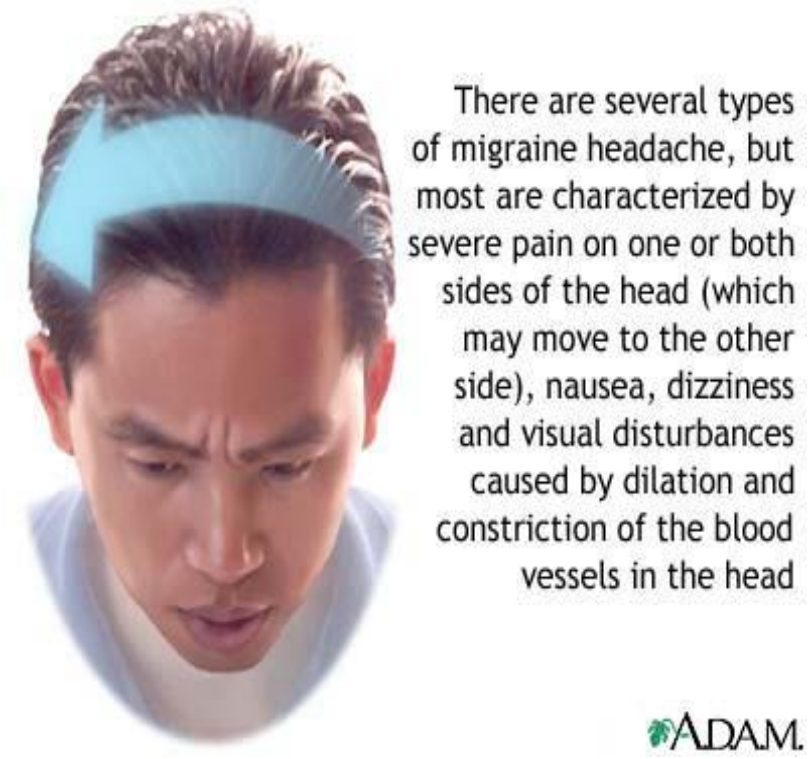
- Anxiety
- Overwork
- Emotional upsets
- Menopause
- Hypertension
- Cerebral tumour
- Premenstrual tension
- Noise
- Fumes
- Depression
- Lack or excess of sleep
- Fasting state
- Some foods-eg:orange,cheese or chocolates etc.,

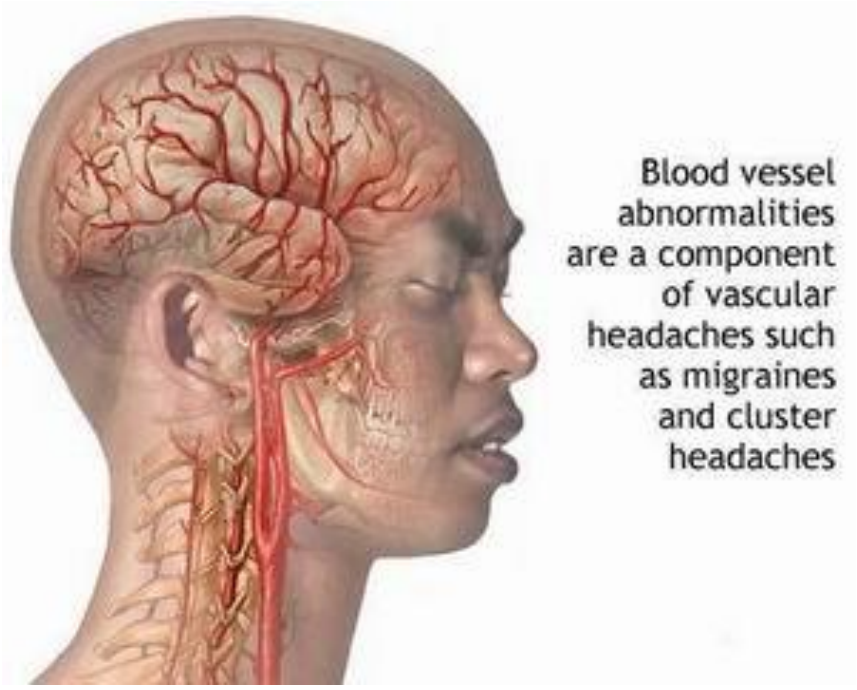
Migraines are believed to be due to a mixture of environmental and genetic Factors.About two-thirds of cases run in families, fluctuating hormone levels may also play a role; Migraine affects slightly more boys than girls befor puberty, but about two to three times more women than men. Propensity for migraines usually decreases during pregnancy. It is however, believed to be a neurovascular disorder.

CLINICAL FEATURES:

- Family history is positive.
- Unilateral headache on one side of the head either right or left side.
- Nausea

- Vomiting
- Lacrimation.
- Photophobia (increased sensitivity to light)
- Phonophobia (increased sensitivity to sound)





CLASSIFICATIONS:

Migraines were first comprehensively classified in 1988. The international headache society most recently updated their classification of headaches in 2004.

- HEMIPLEGIC MIGRAINE:

Sometimes the cerebral changes may persist for sometimes even if the headache is over.

- BASILAR MIGRAINE:

When there is spasm of the basilar artery there may be visual disturbances, occipital headache, vertigo, ataxia, syncope, dysarthria, tinnitus, disequilibrium, perioral and distal paresthesia, confusion, semicomatoes state, headache, nausea, vomiting and paresis of lower limbs.

- FACIOPLEGIC MIGRAINE:

Recurrent facial palcy is associated with migraine.

- OPHTHALMOPLEGIC MIGRAINE:

Migraine is accompanied by oculomotor palsies which may become permanent. Sometimes ophthalmic devision of 5^{th} nerve may be involved also. This is a type of painful ophthalmoplegia and is rare.

- RETINAL MIGRAINE:

In this condition migraine is associated with occlusion of the retinal artery or any of its branches.

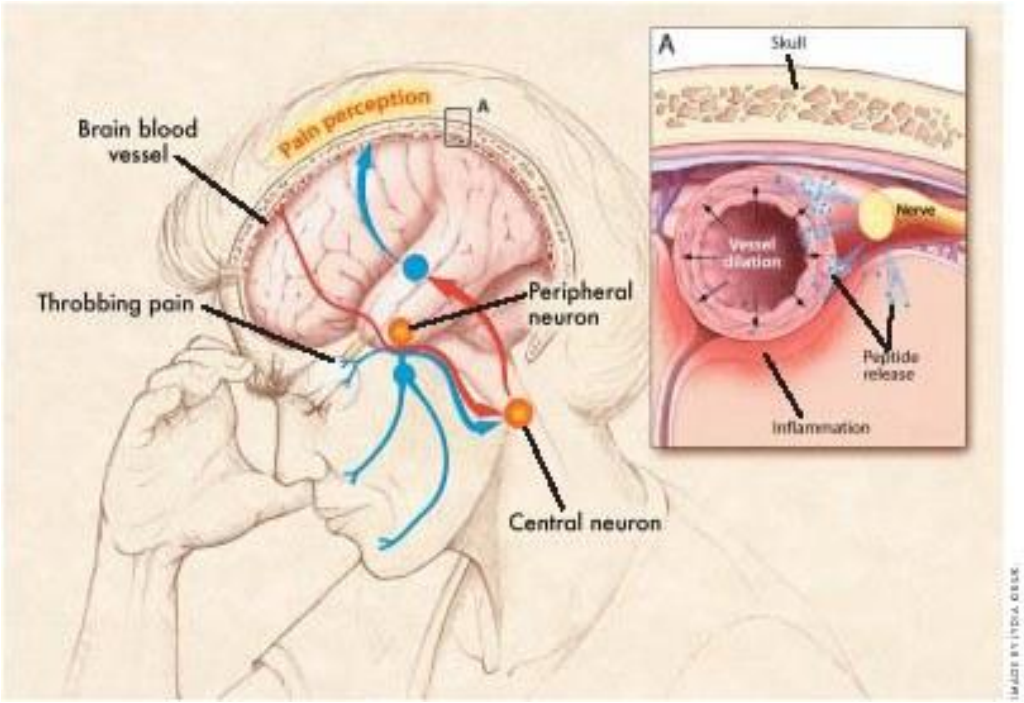
- POST-TRAUMATIC MIGRAINE:

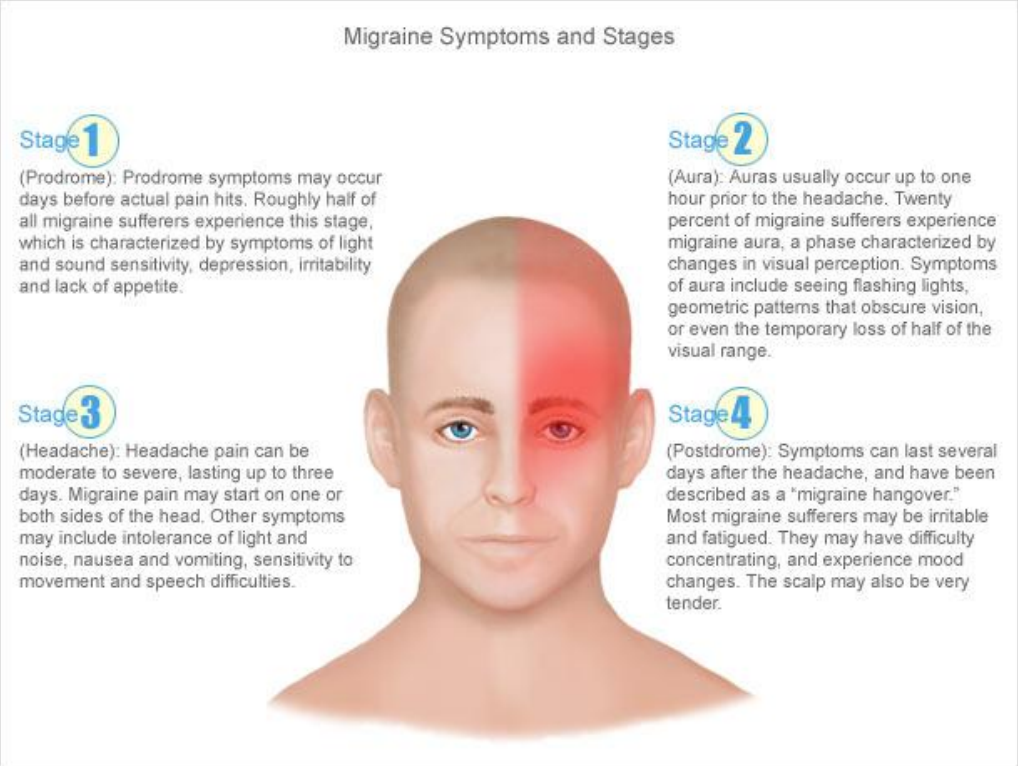
Here migraine may be seen in some cases of headinjury.

❖ MIGRAINOUS NEURALGIA:

Here the attacks are very severe but short-lasting. The eyes may be red and nostrils may be blocked due to congestion, lacrimation, rhinorrhoea, Horners syndrome may develop. Episodes usually occur at night awakening the patient from sleep. The duration is less than 2 hours. There is no family history.sometimes alcohol may trigger an attack.

❖ Childhood periodic syndromes that are commonly precursors of migraine include cyclical vomiting, abdominal migraine and benign paroxysmal vertigo of childhood.





COMPLICATIONS:

- Seizure
- Brain lesion

DIFFERENTIAL DIAGNOSIS:

- Temporal arteritis
- Cluster headache
- Acute glaucoma
- Meningitis
- Subarachnoid haemorrhage
- Tension headache.

MENINGITIS:

- Fever
- Photophobia
- Neck stiffness
- Rash

SUB ARACHNOID HAEMORRHAGE:

- ‘ Thunder – clap’ or very sudden onset headache
- Neck stiffness

ACUTE GLAUCOMA:

- Red eye
- Haloes
- Dicreased visual acuity
- Pupil abnormality

TEMPORAL ARTERITIS:

- Scalp tenderness
- Increased ESR
- Rarely decreased visual acuity.

CLUSTER HEADACHE:

- Pain is located behind one eye or in the eye region, changing sides
- Occurs three times per day ; which may last two weeks three months
- Headache may disappear completely for months or years.

SINUSITIS:

- Pain in the cheekbones, forehead and bridge of the nose.
- Nasal discharge
- Feeling of fullness in the ears
- Fever and facial swelling.

TENSION TYPE HEADACHE:

- Band around the head
- Stress and anxiety

TRIGEMINAL NEURALGIA:

- Intense stabbing pain lasting seconds in trigeminal nerve distribution
- Paroxysms of intense stabbing, burning, or ‘electric shock ‘type pain.

MEDICATION OVERUSE HEADACHE:

- Redbound headache on stopping analgesics.

LITERATURE REVIEW OF TRIAL MEDICINES

PROPERTIES OF MEDICINES:

The drugs used in siddha medicine were identified by five properties. They are suvai (taste), Gunam (character), Veeriyam (potency) Pirivu (class), Mahimai (action). All these five properties are based on the elements (panchaboothas) that are present in that drug.

SUVAI:

The basic taste are six namely, Inippu (sweet), Pulippu (sour), Uppu (saline) Kaippu (bitter), kaarppu (pungent), Thuvarppu (astringent). Each taste is the combination of any two boothas of the panja boothas.

GUNAM:

Every drug has few of the following ten pairs of gunas based on the panjaboothas present in the drug.the paired gunas are,

Heavy & light, cold & hot, Oily & dry, Mild & keen, Compact & mobile, Soft & hard, clean & slimy, Smooth & gross, Solid & liquid.

VEERIYAM:

Veeriyam of a drug is classified into two, namely heat (veppam) and cold (thappam) based on the presene of the bootha fire in that drug. The drugs which have predominant fire bootha usually have the salt, sour, pungent tastes. So the drugs with these tastes are hot and vehement, others are cold and slow in action.

PIRIVU:

A Class of a drug is based on the taste of the drug after the metabolism of the particular drug acted upon by the digestive fire. It is after-taste which either nourishes a particular physical and life constituents or destroys them. The sweet and the saline substance after metabolism become sweet. The sweet and the saline

substance after metabolism become sweet. The sour is sour while the astringent, pungent, and bitter become pungent.

MAHIMAI:

Every drug has got a specific action which is independent of the above four features, and that individual action is called mahimai.

CONCEPTS OF NATPU (synergetic) AND PAGAI (antagonist) CHARAKKU:

When compound medicines are prepared, the physician should know about the group of drugs which should be added together. This also helps in the process of purification of raw drugs. Two drugs which have a combined, synergetic action are a natpu charakku, and two drugs which have conflicting properties is a pagai charakku. This is also based on the boothas that are present in the drug.

TRIAL DRUG 1: SATHIKKAI PODI

INCREDIENTS:

- Sathikkai
- Sanal (chanappu)
- Elam
- Kirampu
- chithiram moola ver
- Soodan(camphor)

SATHIKKAI:

BOT.NAME: Myristica fragrans

FAMILY : Myrtaceae

SUVAI : Thuvarppu, kaarppu

THANMAI : Veppam

PIRIVU : Kaarppu

Part used : Fruit

GUNAM:

தாது நட்டம் பேதி சருவாசி **யஞ்சிர நோய்**
ஓதுசுவா சங்காசம் உட்கிராணி - வேதோ
டிலக்காய் வரும்பிணிபோம் ஏற்றமயல் பித்த
குலக்கா யருந்துவார்க்குக் கூறு

குணபாடம்-மூலிகை வகுப்பு Page no: 430

ACTIONS:

- Analgesic
- Anti-spasmodic
- Carminative

SANAL (CHANAPPU):

BOT.NAME: Crotalaria juncea

FAMILY : Fabaceae

SUVAI : kaippu, kaarppu

THANMAI: veppam

PIRIVU : kaarppu

PART USED: seed

ACTIONS:

- Emmenagogue

ELAM:

BOT.NAME: Elettaria cardamomum

FAMILY : Zingiberaceae

SUVAI : kaarppu

THANMAI: veppam

PIRIVU : kaarppu

PART USED: seed

ACTIONS :

- Anti-spasmodic
- Carminative

KIRAMPU:

BOT.NAME: Syzygium aromaticum

FAMILY : Myristicaceae

SUVAI : kaarppu

THANMAI : veppam

PIRIVU : kaarppu

PART USED: seed

ACTIONS :

- Anti-spasmodic
- Carminative
- Stomachic

CHITHIRA MOOLA VER:

BOT.NAME: Plumbago zeylanica

FAMILY : Plumbaginaceae

SUVAI : kaarppu

THANMAI : veppam

PIRIVU : kaarppu

PART USED: Root

ACTIONS :

- Anti-spasmodic

SOODAN: Cinnamomum camphora

SUVAI : Kaippu, kaarppu

THATPAM: veppam

PIRIVU : kaarppu

ACTIONS:

- Analgesic
- Anti-spasmodic
- Sedative

INCREDIENTS OF SATHIKKAI PODI

SATHIKKAI

CHANAPPU

ELAM

KODIVELI

KARPOORAM

KIRAMBU

SATHIKKAI PODI

TRIAL DRUG -2: VETTIVER THYLUM

INGREDIENTS:

- Vettiver thylum
- Atimathuram
- Nallennai(Gingely oil)

VETTIVER:

BOT.NAME: Vettiveria zizanoids

FAMILY : Poaceae

SUVAI : Inipu

THANMAI : Thatpam

PIRIVU : Inipu

PART USED: Root

GUNAM:

பித்தவி தாகம் சசிகா மிலங்கறைப் பித்தமனற்
அத்திடு குட்ட**ஞ்சிர நோய்** களமடி தாது நட்ட
மத்தமனற் புண் டனப்புண்வன் மூர்ச்சை வரிவிழி நோய்
வித்திர மேகத்தின் கட்டியும் போம் வெட்டி வேரினுக்கே

-குணபாடம்-மூலிகை வகுப்பு Page no: 366

ACTIONS:

- Anti-spasmodic
- Febrifuge

ATHIMATHURAM:

BOT.NAME: Glycyrrhiza glabra

FAMILY : Fabaceae

SUVAI : Inippu

THANMAI : Thatpam

PIRIVU : Inippu

PART USED: Root

ACTIONS :

- Emollient
- Demulcent

ELL:

BOT.NAME: Sesamum indicum

FAMILY : Pedeliaceae

SUVAI : Inippu

THANMAI : Veppam

PIRIVU : Inippu

PART USED: Seeds

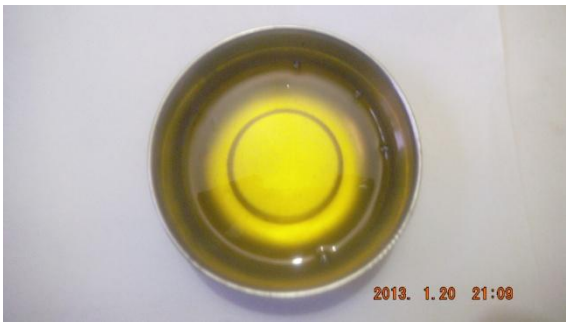
ACTIONS :

- Emollient
- Demulcent

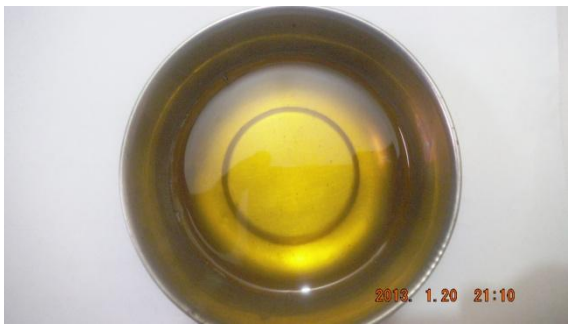
INGREDIENTS OF VETTIVER THYLUM

ATHIMATHURAM

VETTI VER



GINGELLY OIL



VETTIVER THYLAM

MATERIALS AND METHODS

PROTOCOL

STUDY DESIGN:

The clinical open trial on Oruthalai vatha petham was conducted at the OPD section of POST GRADUATE – POTHU MARUTHUVAM department attached to the ARIGNAR ANNA HOSPITAL OF INDIAN MEDICINE,CHENNAI-106,during the period 2011-2013.

SAMPLE SIZE:

20 Patients in the age group 15-55.

SELECTION CRITERIA:

Patients with the following criteria are included in the study.

- Unilateral headache
- Nausea and vomiting
- Lacrimation
- Photophobia
- Phonophobia
- Insomnia
- Hereditary cause

EXCLUSION CRITERIA:

Patients with following criteria are excluded from the study,

- Sinusitis
- Hypertension
- SOL
- Psychosis
- Pregnancy
- Epilepsy

WITHDRAWAL CRITERIA:

- ✓ Patients who have not completed the trial period are withdrawn from the study.

EVALUATION OF CLINICAL PARAMETERS:

Patients are clinically evaluated by the following parameters.

HISTORY TAKING:

Age, occupation, socio-economic status, complains and its duration, menstrual history, marital history, family history, previous illness, personal habits were recorded in the case sheet for every patient at the time of first visit to the OPD.

INVESTIGATIONS:

All patients were subjected to the laboratory investigations before and after the treatment.

Blood:

Complete haemogram, Bl.sugar, Bl.urea, Sr.cholesterol, Sr.creatinine.

Urine:

Albumin, sugar and deposits.

X-ray for PNS

CT scan for BRAIN.

CLINICAL DIAGNOSIS BASED ON SIDDHA SYSTEM:

The parameters used to diagnosis Oruthalai vatha petham based on siddha system.

- ✓ Poriyaal arithal
- ✓ Pulanaal arithal
- ✓ Vinaathal
- ✓ Envagai thervugal
- ✓ Uyir thaathukkal
- ✓ Udal thaathukkal

TRIAL MEDICINES

PURGATION ON 1ST DAY:

Agasthiyar kulambu -65 mg with hotwater at early morning.

TRIAL DRUG-1: SATHIKKAI PODI

Reference book: Gunapaadam mooligai part 1 page no-431

INCREDIENTS:

- Sathikkai
- Sanal(Chanappu)
- Elam
- Kirambu
- Chithiramoola ver
- soodan

PREPERATION:

Equal quantity of each drug is identified and grinded well after the purification.then grinded powder is undergone for "vasthirakaayam" and then "pittavial" for purification.

DOSAGE:

500mg BD

ANUBANAM:

MILK

DURATION:

48 DAYS.

INDICATION:

Irumal, Vayitru vali, Otrai thalai vali, perumbadu, soothaga vali, vaatha vali.

TRIAL DRUG: 2: VETTIVER THYLUM

REFERENCE BOOK: KOSHAYI ANUBOGA VAIDHYA BRAHMA RAGASIYAM page no-272

INCREDIENTS:

- Vettiver
- Atimaturam
- Nallennai(Gingely oil)

PREPERATION:

I prepared the vettiver dicaution. It is mixed with equal quantity of gingely oil and then adimathuram karkam is added with it. Heat well and filtered at the stage of “mezhugu” patham.

DOSAGE:

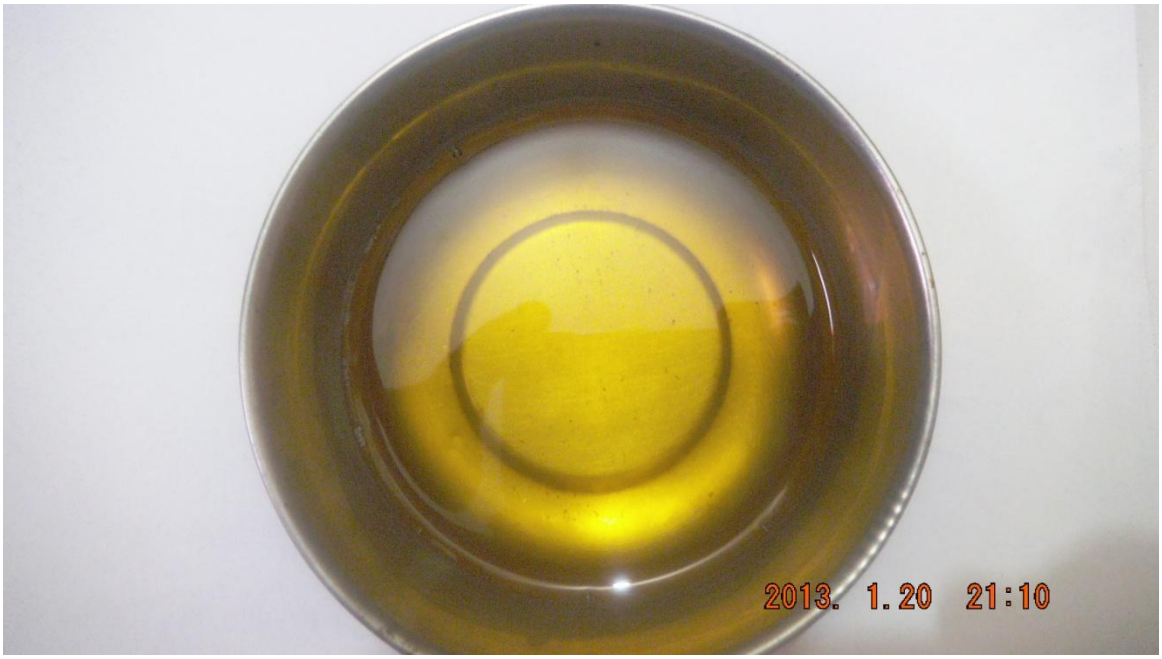
15 ml for bath once in 4 days.

INDICATION:

Mandai soolai, kadhu mandham, kann pugaichal.

TRIAL MEDICINES

SATHIKKAI PODI



VETTIVER THYLAM

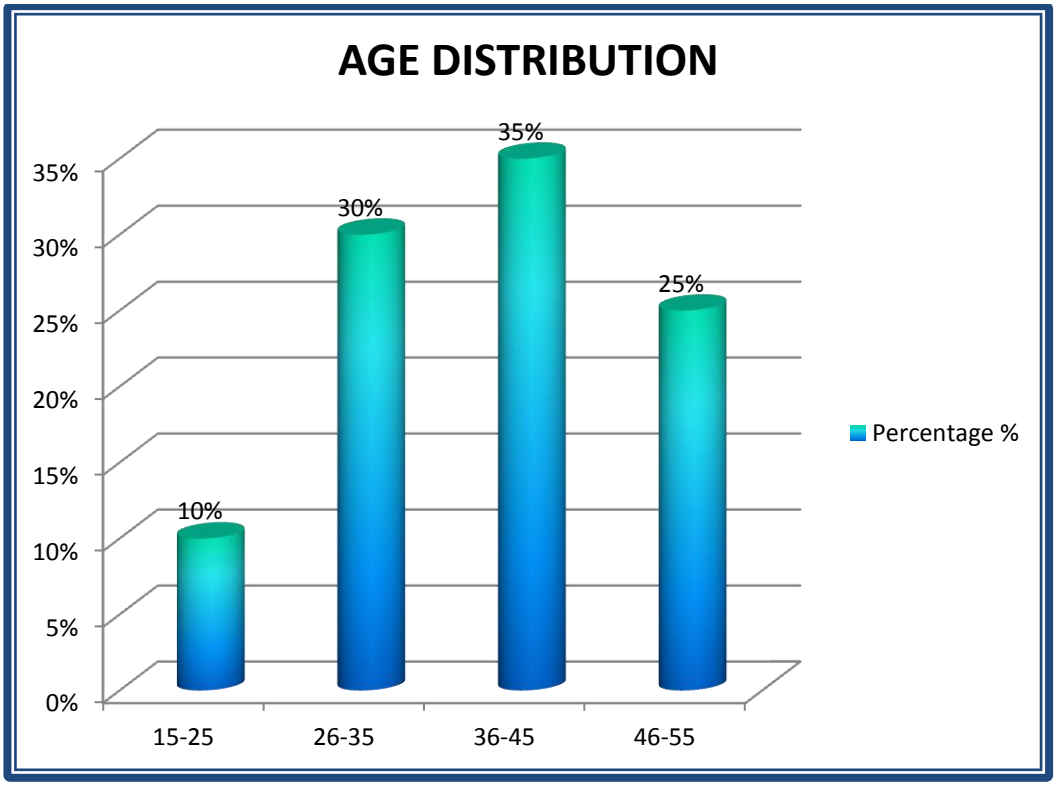
RESULT AND OBSERVATION

A Total number of 20 patients were treated in OPD and IPD of PG Maruthuvam Department attached with Arignar Anna Govt. Hospital of Indian Medicine during the period 2011-2013. The patients were included in the study with signs and symptoms of Oruthalai Vatha Petham were observed. The observations were tabulated regarding the following features.

- AGE DISTRIBUTION
- SEX DISTRIBUTION
- DISTRIBUTION OF KAALAM
- OCCUPATION
- SOCIO ECONOMIC STATUS
- DIET HABITS
- FAMILY HISTORY
- DISTRIBUTION OF THINAI
- PARUVAKAALAM
- DISTRIBUTION OF VAATHAM, PITHAM, KABHAM
- EZHU UDAL THATHUKKAL
- ENVAGAI THERVUGAL
- NEIKURI
- CLINICAL MANIFESTATIONS
- GRADATION OF RESULTS

AGE DISTRIBUTION

Age (Years)	No.of Cases 20	Percentage
15-25	2	10%
26-35	6	30%
36-45	7	35%
46-55	5	25%

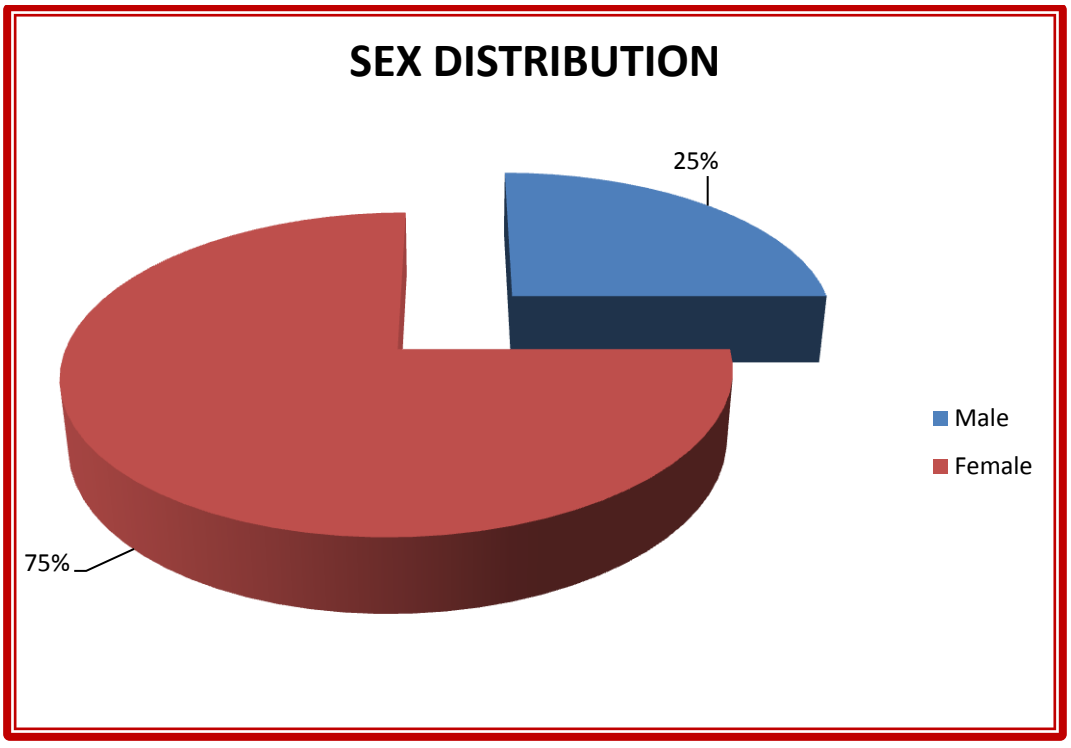


Inference

10% of patients were in the age group 15-25, 30% of patients were in the age group of 26-35, 35% patients were in the age group 36-45, 25% of patients were in the age group 46-55.

SEX DISTRIBUTION

Sex	No.of Cases 20	Percentage
Male	5	25%
Female	15	75%

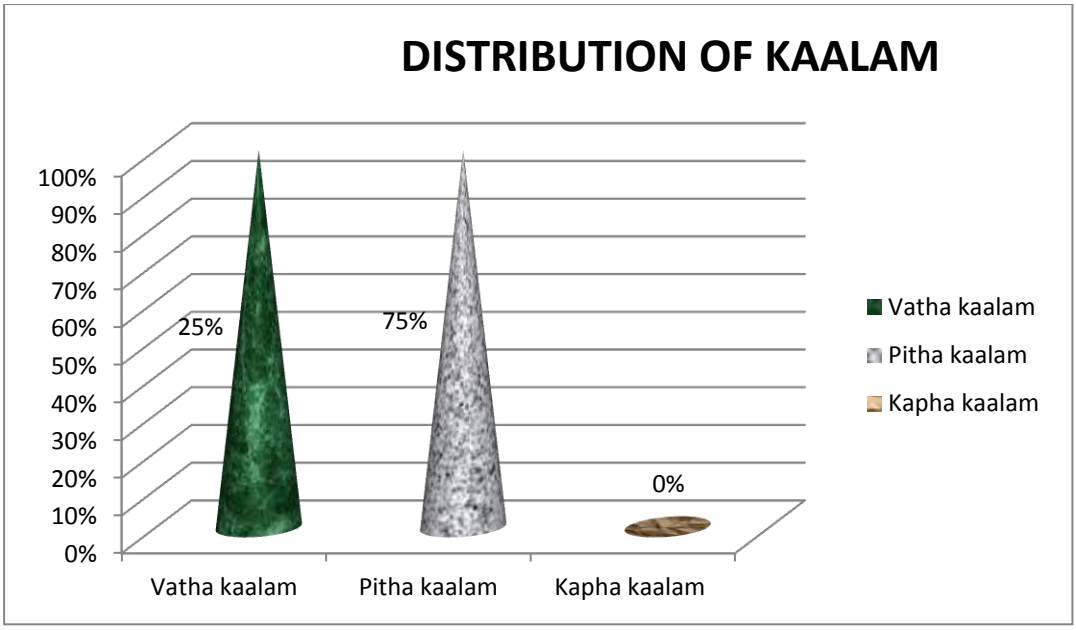


Inference

25% of Males were affected and 75% of Females were affected.

DISTRIBUTION OF KAALAM

Kaalam	No. of Cases Out of 20	Percentage
Vatha kaalam Upto 33 yrs and 4 months	5	25%
Pitha kaalam Upto 34-66& 8 months	15	75%
Kapha kaalam above 66 yrs	0	0%

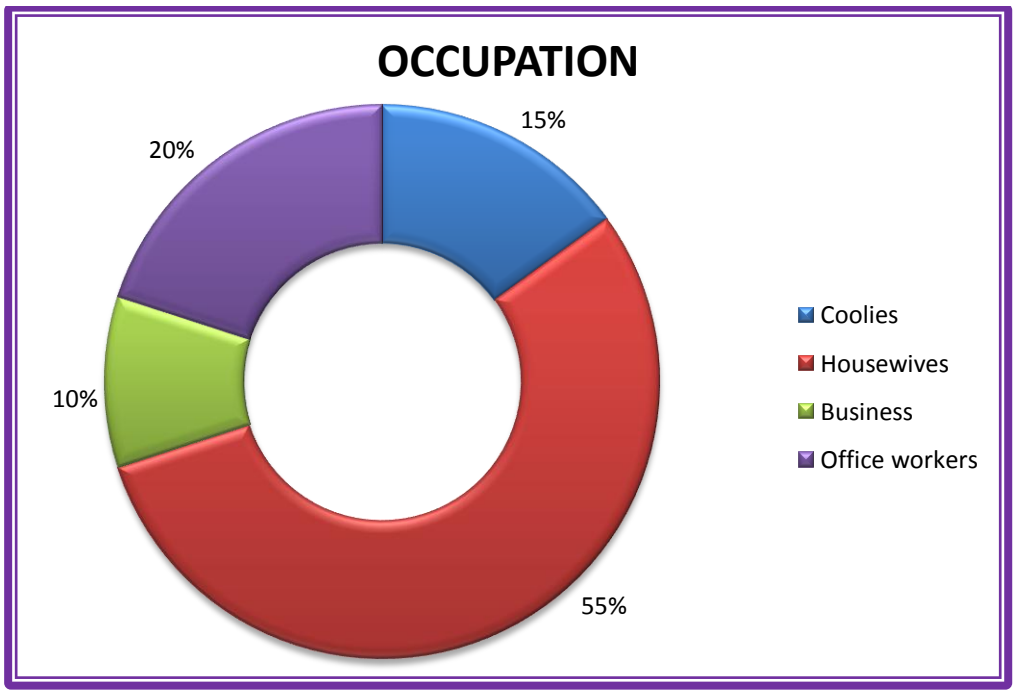


Inference

25% of patient was in vatha kaalam and 75% of patients were in pitha kaalam

OCCUPATION

Occupation	No.of Cases Out of 20	Percentage
Coolies	3	15%
Housewives	11	55%
Business	2	10%
Office workers	4	20%

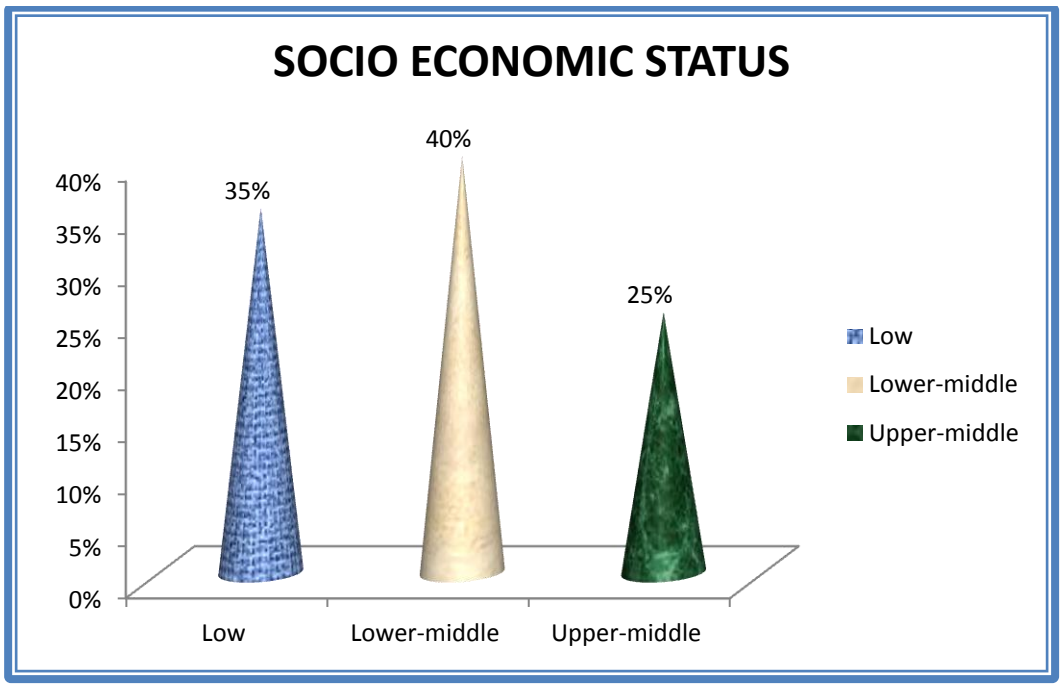


Inference

15% of patients were Coolies, 55% of patients were Housewives, 10% of patients were Business and 20% of patients were office workers.

SOCIO ECONOMIC STATUS

Socio Economic Status	No.of Cases Out of 20	Percentage
Low (Below 10000/M)	7	35%
Lower-middle (10000-20000/M)	8	40%
Upper-middle (20000/above)	5	25%

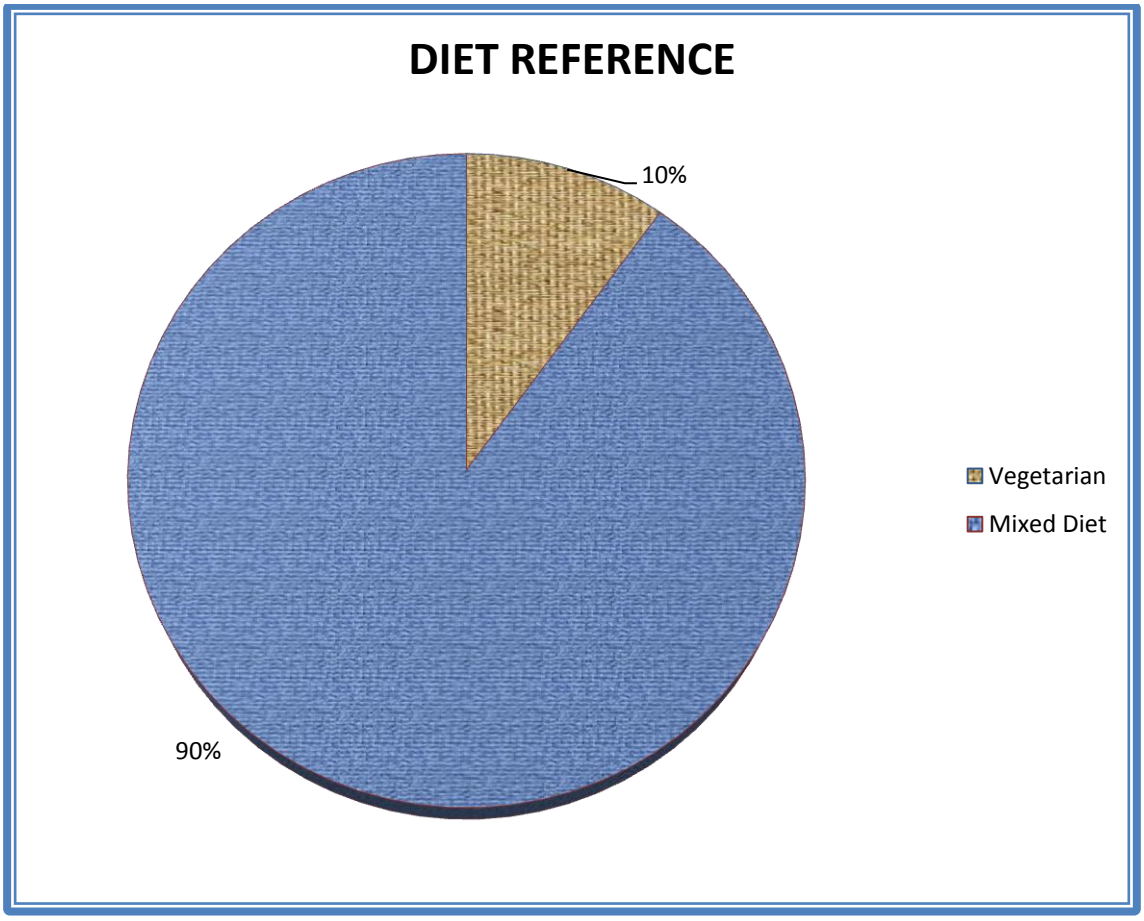


Inference

35% of patients belonging to Low, 40% of patients belonging to Lower-middle and 25% of patients belonging to Upper-middle.

DIET REFERENCE

Food Habits	No.of cases out of 20	Percentage
Vegetarian	2	10%
Mixed Diet	18	90%

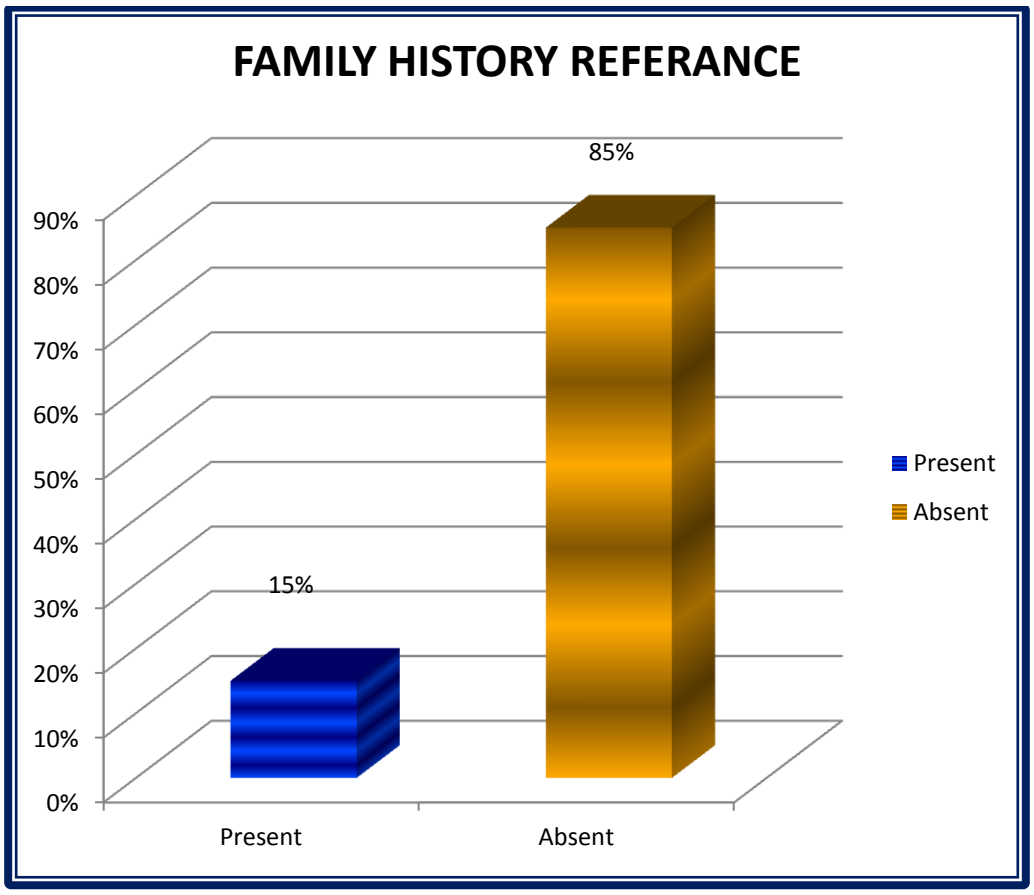


Inference

90% of cases were taken mixed diet and 10% of cases were taken Vegetarian.

FAMILY HISTORY REFERANCE

Family History	No.of Cases Out of 20	Percentage
Present	3	15%
Absent	17	85%

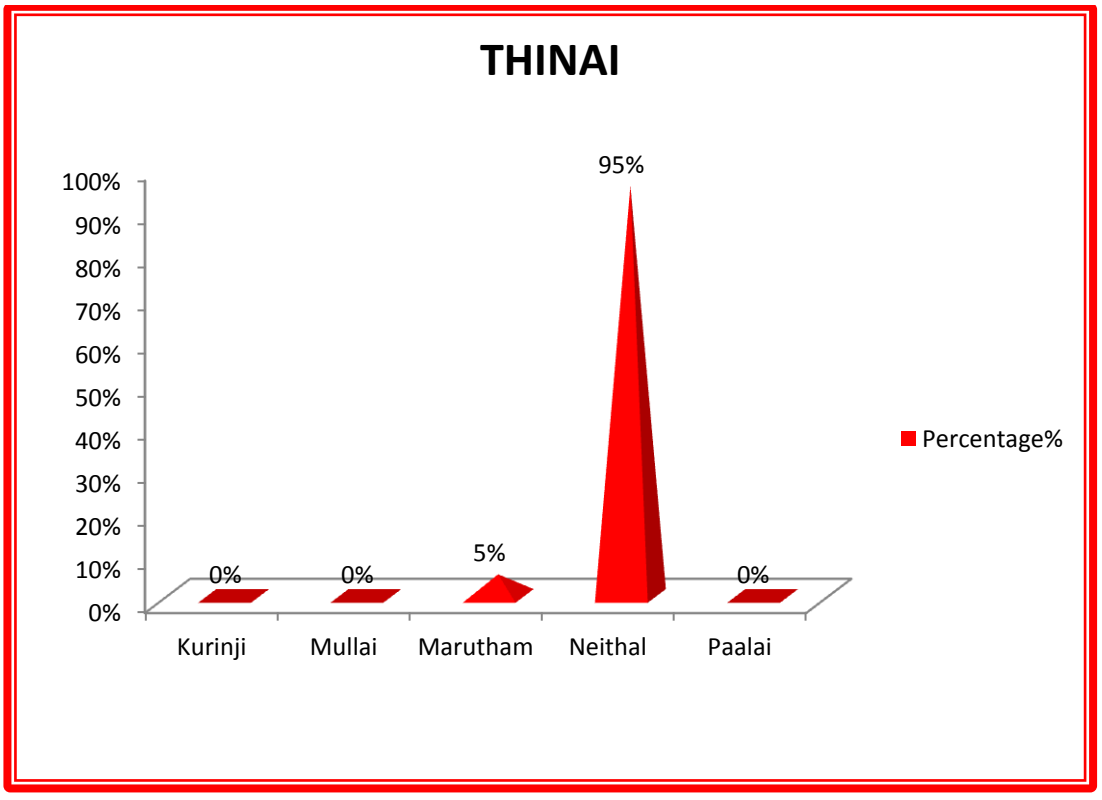


Inference

Family history of Oruthalai vatha petham was present in 15% patients and absent in 85% of patients.

DISTRIBUTION OF THINAI

Thinai	No.of Cases Out of 20	Percentage
Kurinji	0	0%
Mullai	0	0%
Marutham	1	5%
Neithal	19	95%
Paalai	0	0%

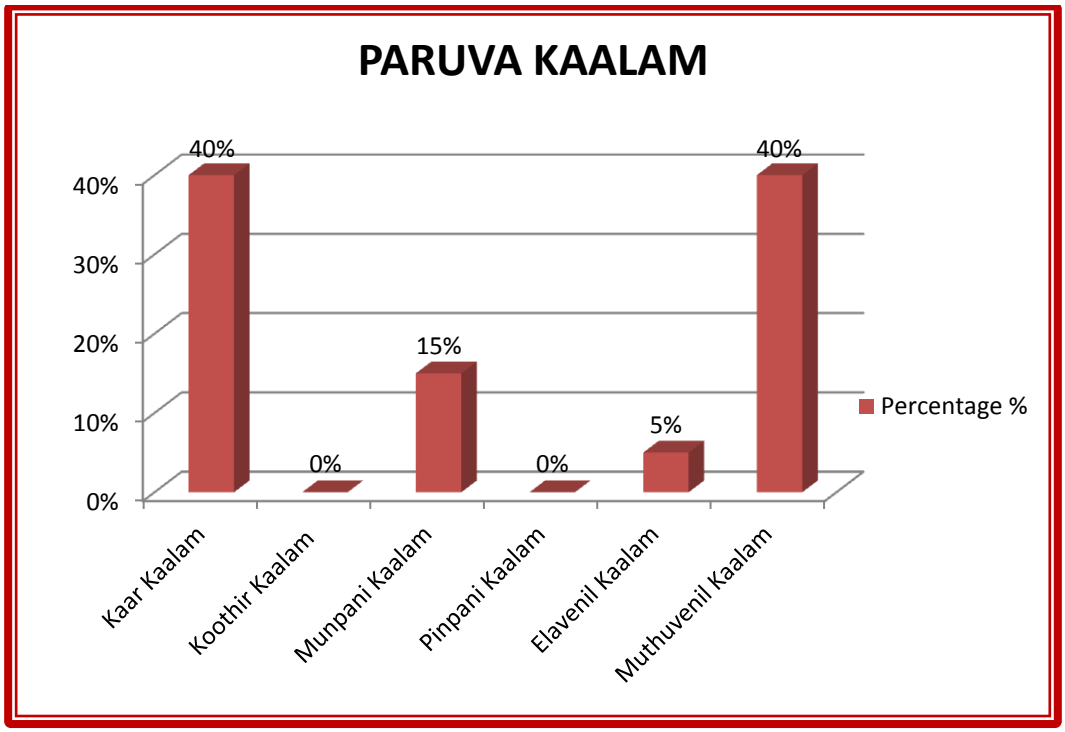


Inference

Neithal 95%, Marutham 5%.

PARUVA KAALAM

Paruvakaalam	No.of cases out of 20	Percentage
Kaar Kaalam (Aug16- Oct15)	8	40%
Koothir Kaalam (Oct16- Dec15)	0	0%
Munpani Kaalam (Dec16- Feb15)	3	15%
Pinpani Kaalam (Feb16- Apr15)	0	0%
Elavenil Kaalam (Apr16- June15)	1	5%
Muthuvenil Kaalam (June16- Aug15.)	8	40%

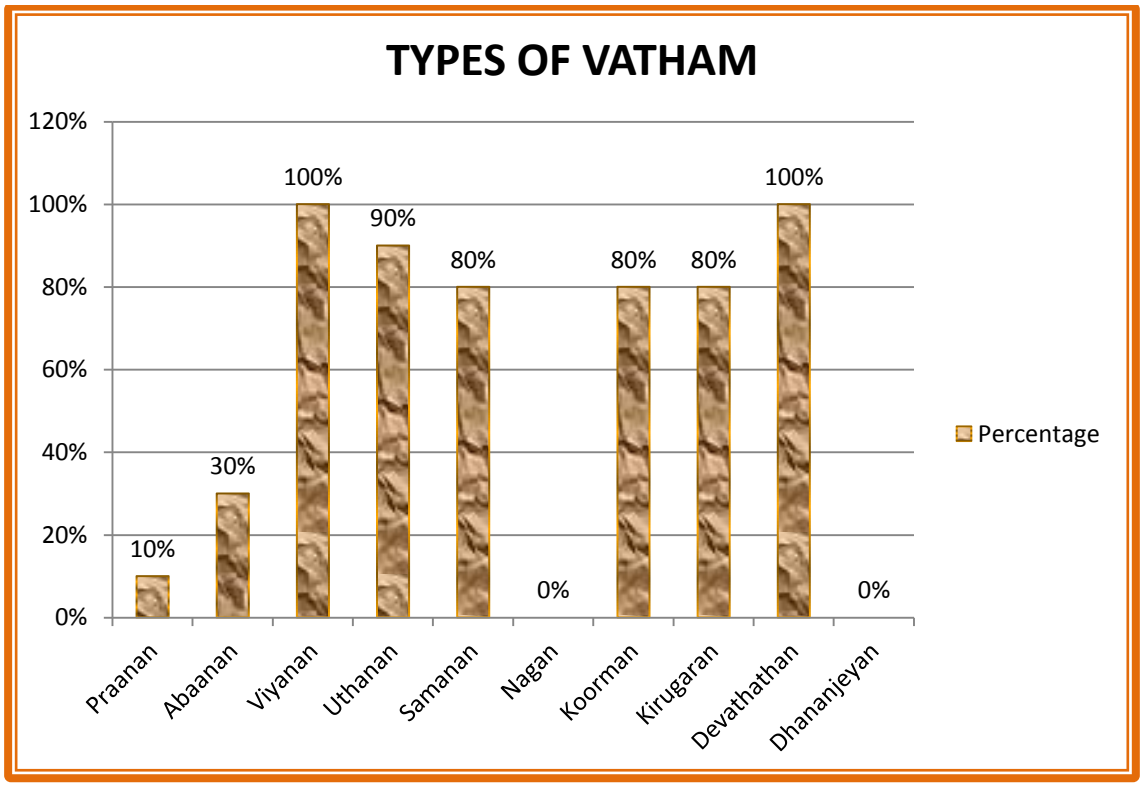


Inference

40% of patients were reported in Kaar kaalam, 15% of patients were reported in Munpani, 5% of patients were reported in Elavenil kaalam and 40% of patients were reported in Muthuvenil Kaalam.

DERANGEMENT IN THE TYPES OF VATHAM

Vatham	No.of Case Out of 20	Percentage
Praanan	2	10%
Abaanan	6	30%
Viyanan	20	100%
Uthanan	18	90%
Samanan	16	80%
Nagan	0	0%
Koorman	16	80%
Kirugaran	16	80%
Devathathan	20	100%
Dhananjeyan	0	0%

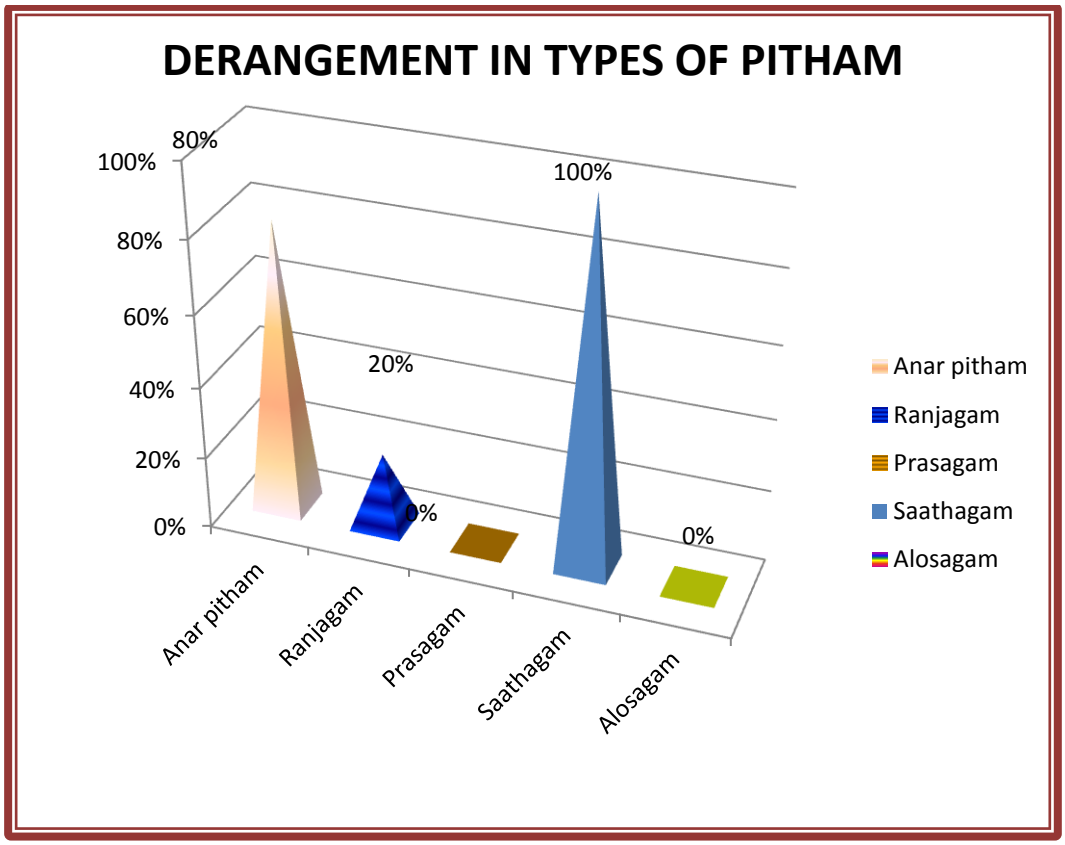


Inference

Abanan affected in 30%, Viyanan and Devathathan affected in 100%, Samanan and Koorman and Kirugaran affected in 80%.

DERANGEMENT IN TYPES OF PITHAM

Pitham	No.of Cases Out of 20	Percentage
Anar pitham	16	80%
Ranjagam	4	20%
Prasagam	0	0%
Saathagam	20	100%
Alosagam	0	0%

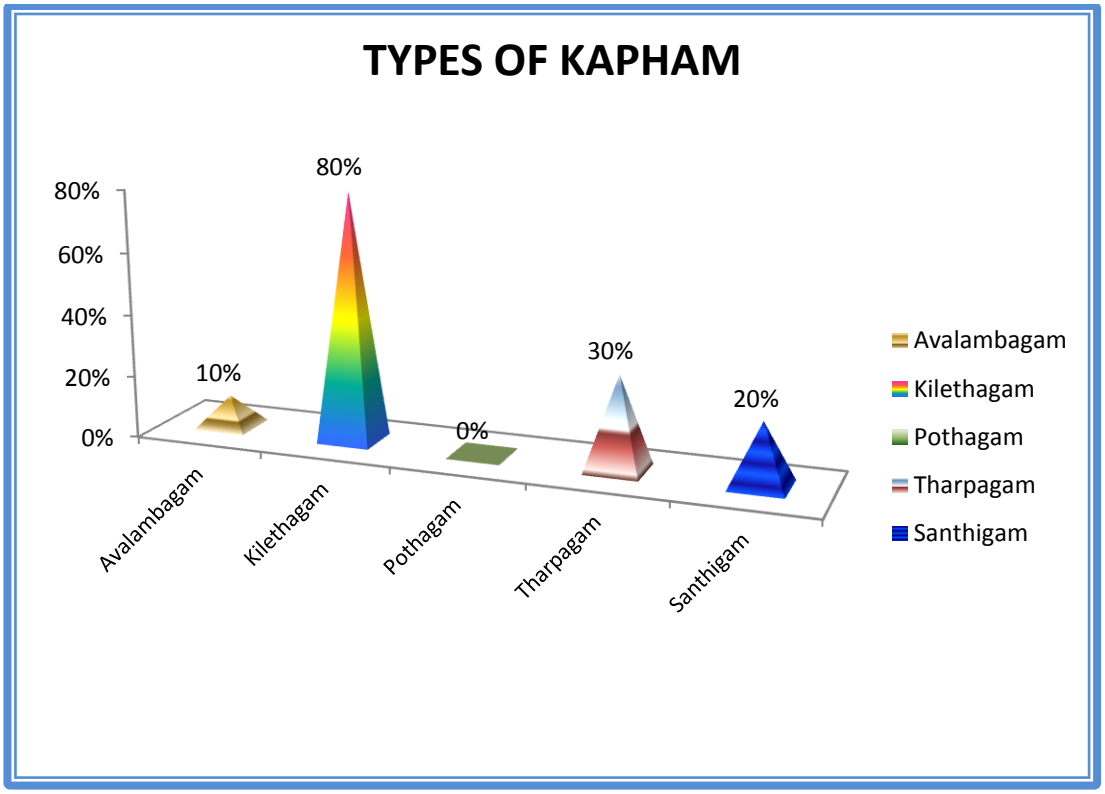


Inference

According to Pitham Analagam was deranged in 80% of cases, Ranjagam was deranged in 20%, and Saathagam was deranged 100%.

DERANGEMENT TYPES OF KAPHAM

Types of kapham	No.of Case out of 20	Percentage
Avalambagam	2	10%
Kilethagam	16	80%
Pothagam	0	0%
Tharpagam	6	30%
Santhigam	4	20%

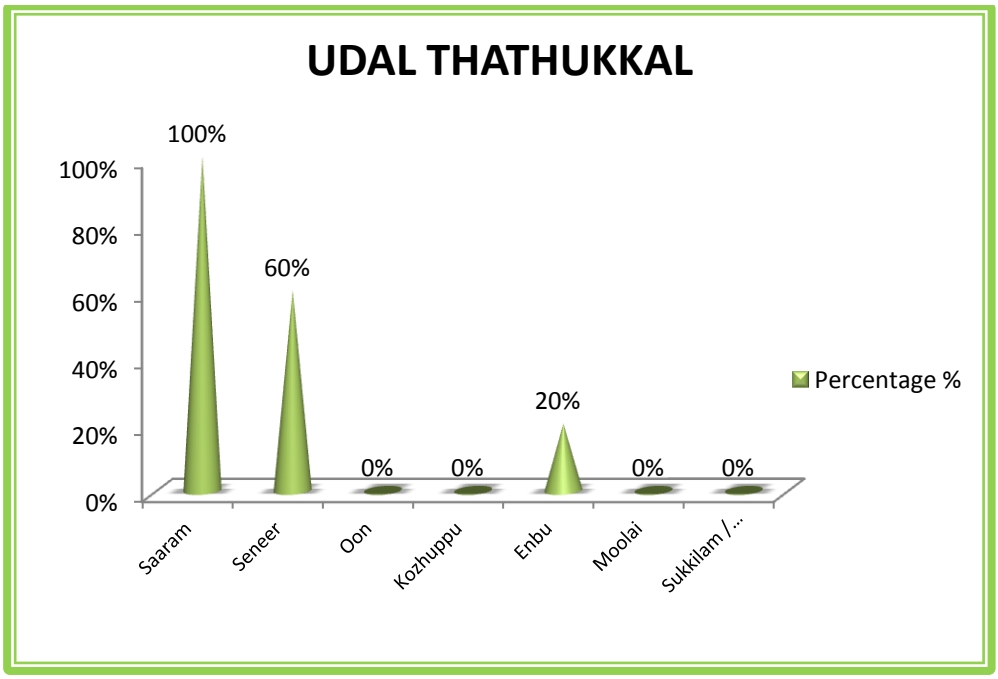


Inference

According to Kabam Santhigam was deranged in 20%, Kilethagam was deranged in 80%, Tharpagam was deranged in 30% of cases and Avalambagam was deranged in 10%.

UDAL THATHUKKAL

Udal Thathukkal	No.of Cases Out of 20	Percentage
Saaram	20	100%
Seneer	14	60%
Oon	0	0%
Kozhuppu	0	0%
Enbu	4	20%
Moolai	0	0%
Sukkilam / Sironitham	0	0%

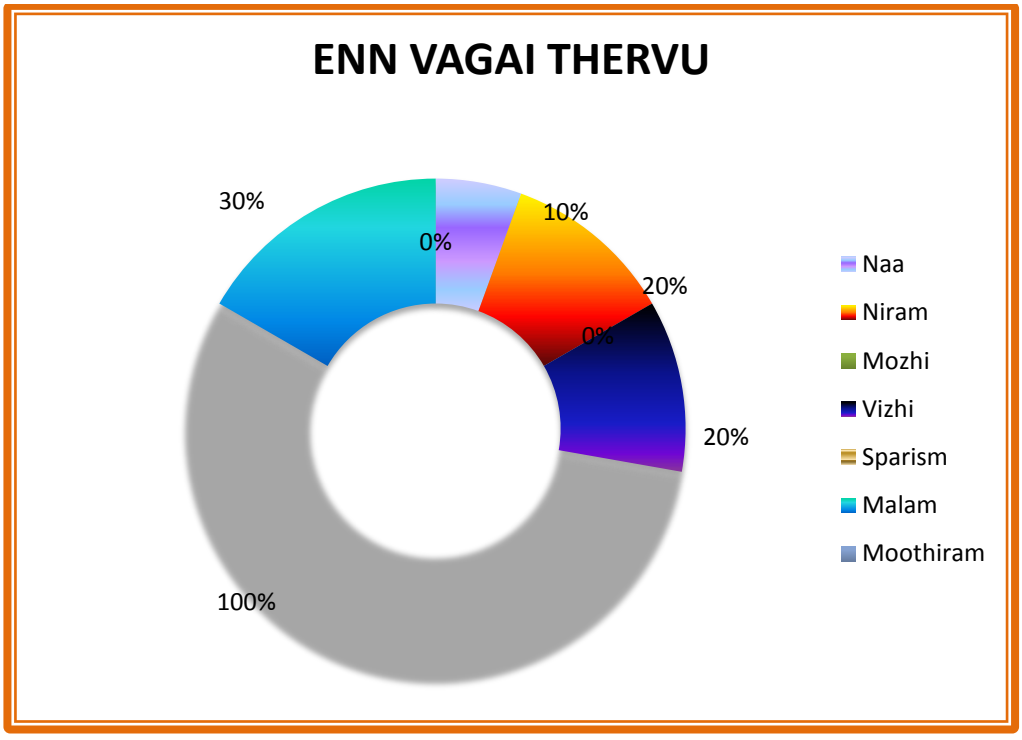


Inference

Saaram was affected in 100% of cases Enbu was affected in 20% Senneer was affected in 60% of cases.

ENN VAGAI THERVU

Enn Vagai Thervu	No.of Cases Out of 20	Percentage
Naa	2	10%
Niram	4	20%
Mozhi	0	0%
Vizhi	4	20%
Sparism	20	100%
Malam	6	30%
Moothiram	0	0%

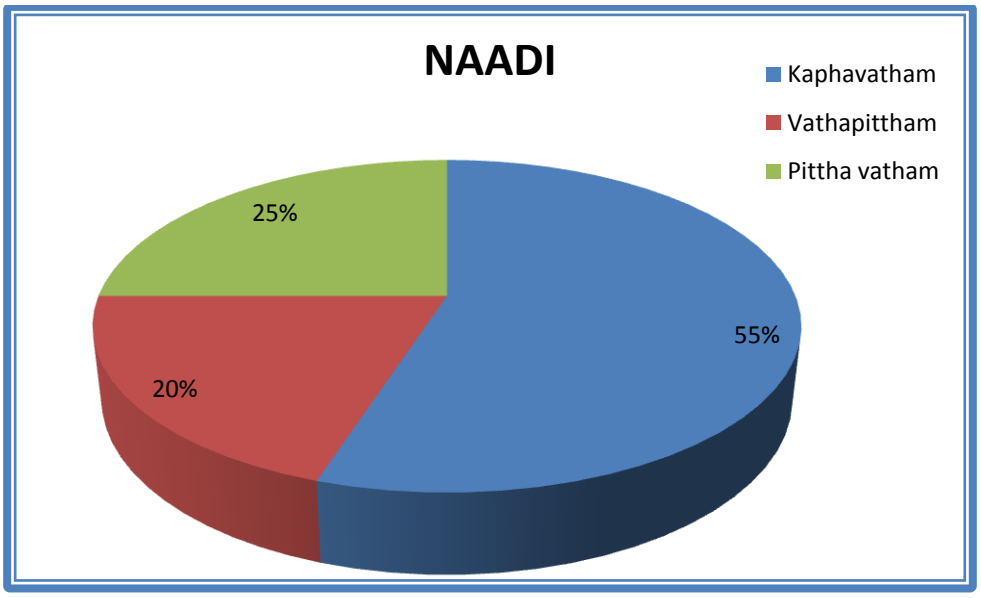


Inference

Naa affected in10%, Vizhi affected in 20%, Sparism affected in 100%, Malam affected in 30%.

NAADI REFERENCE

Naadi	No.of Cases Out of 20	Percentage
Kaphavatham	11	55%
Vathapittham	4	20%
Pittha vatham	5	25%

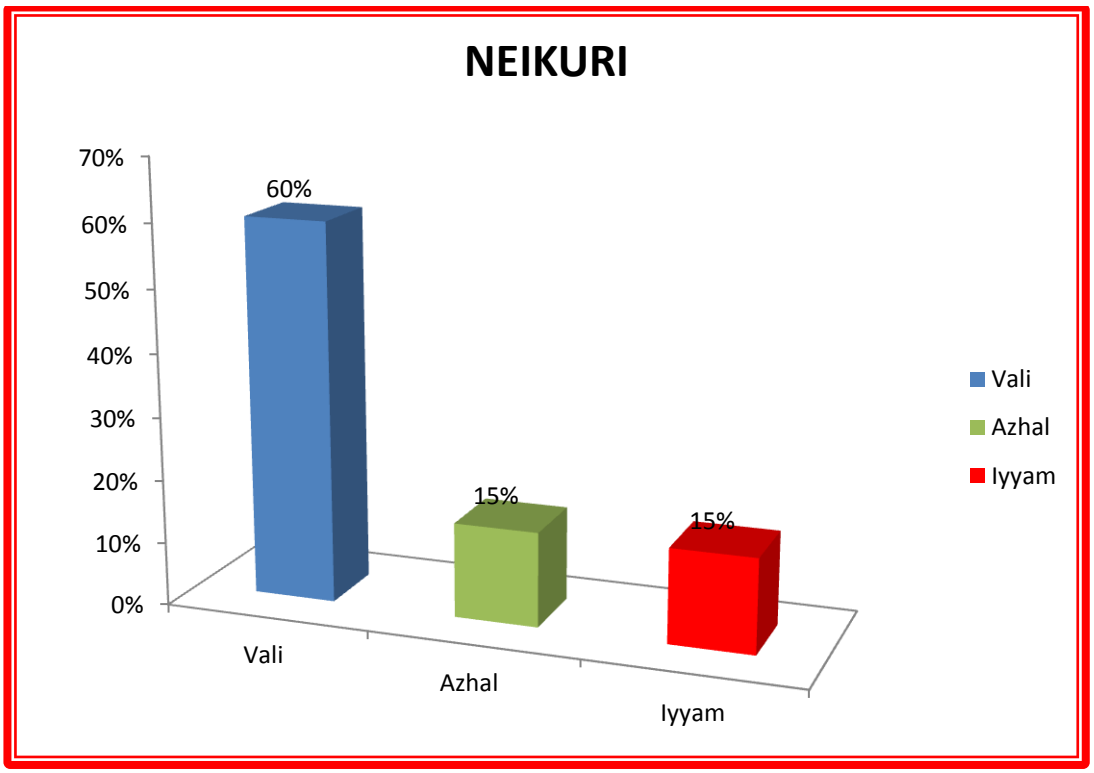


Inference

55% of cases had Kaphavatham, 20% of cases had Vathapitham and 25% of cases had Pitha vatham.

NEIKURI REFERENCE

Neikuri	No.of Cases Out of 20	Percentage
Vali (Snake like)	14	60%
Azhal (Ring like)	3	15%
Iyyam (Pearl like)	3	15%



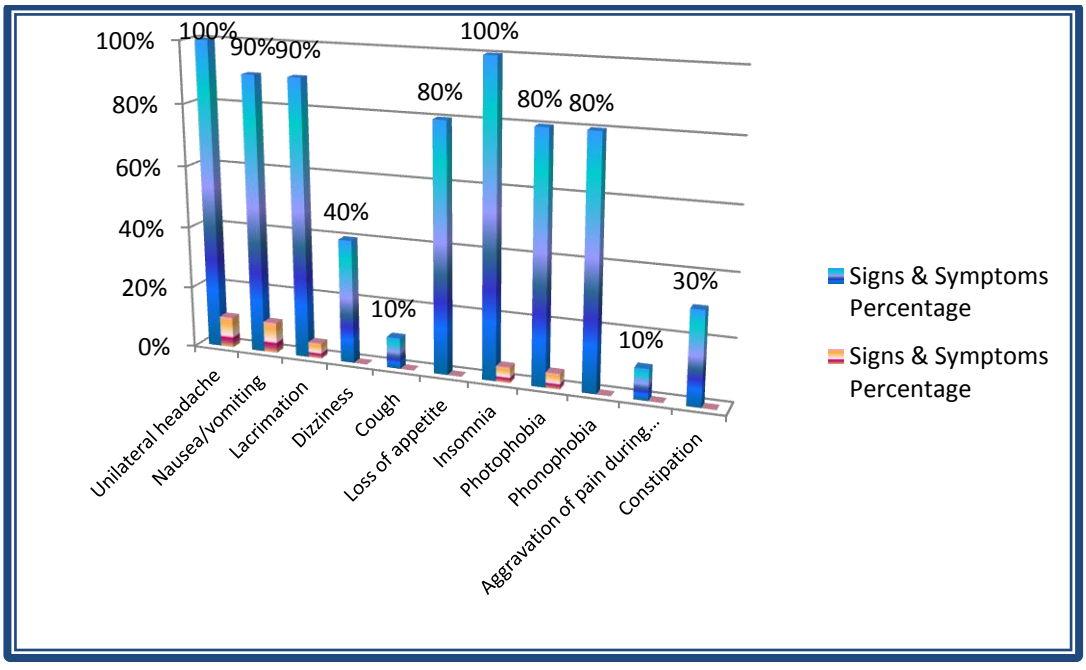
Inference

60% of cases show Vali neikuri, 15% of cases show Azhal neikuri and 15%of cases show Iyyam neikuri.

CLINICAL FEATURES BEFORE & AFTER TREATMENT

Signs & Symptoms	Before Treatment		After Treatment	
	No. of Cases	Percentage	No. of Cases	Percentage
Unilateral headache	20	100%	2	10%
Nausea/vomiting	18	90%	2	10%
Lacrimation	18	90%	1	5%
Dizziness	8	40%	0	0%
Cough	2	10%	0	0%
Loss of appetite	16	80%	0	0%
Insomnia	20	100%	1	5%
Photophobia	16	80%	1	5%
Phonophobia	16	80%	0	0%
Aggravation of pain during menstruation	2	10%	0	0%
Constipation	6	30%	0	0%

CLINICAL FEATURES BEFORE & AFTER

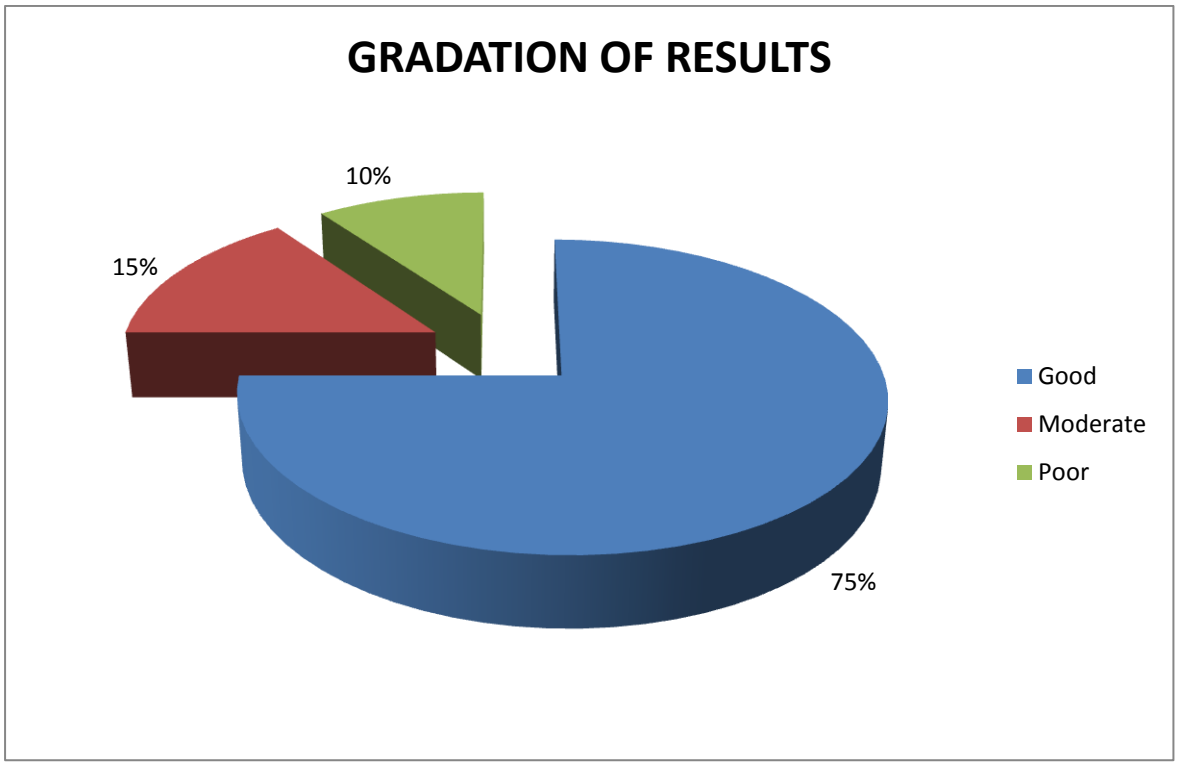


Inference

90% of patients were relieved Unilateral headache, and Nausea and vomiting, 95% of patients were relieved Lacrimation, Insomnia and photophobia and 100% of patients were relieved Dizziness, Cough, Loss of Appetite, Phonophobia and Constipation.

GRADATION OF RESULTS

Results	No.of Cases Out of 20	Percentage
Good	15	75%
Moderate	3	15%
Poor	2	10%



Inference

About 75% of cases had good Relief, 15% had moderate relief and 10% mild relief.

PATIENTS X-RAY REPORT

S.NO	OP.NO	NAME	AGE/SEX	X-RAY-PNS
1.	2972	PREMAKUMARI	54/F	NORMAL
2	3956	KANNAGI	45/F	NORMAL
3.	8452	KUMAR	26/M	NORMAL
4.	2052	SARAVANAN	26/M	NORMAL
5.	7039	BASHEERABEGUM	17/F	NORMAL
6.	5420	SHANTHI	43/F	NORMAL
7.	1175	KARPAGAM	49/F	NORMAL
8.	6566	YASODHA	49/F	NORMAL
9.	9594	SARKUNAM	33/M	NORMAL
10.	8465	KOTTESWARI	48/F	NORMAL

DISCUSSION

"Oruthalai vatha petham" a clinical condition described by Yugi munivar in "yugi vaidhya chinthamani" is one among the vatha diseases.The clinical features of Oruthalai vatha petham are,

- Unilateral headache
- Nausea and vomiting
- Lacrimation
- Photophobia
- Loss of appetite
- Insomnia
- Dizziness

Oruthalai vatha petham which is compared with "Migraine" in modern aspect.

20 cases of both sex were selected and the patients were examined based on both siddha and as well as modern aspects and all the necessary investigations were made during the history taking.

Trial medicines administered were,

1.**SATHIKKAI PODI** – 500 mg bd with milk after food

2.**VETTIVER THYLUM**-15 ml for bath once in 4 days.

All the patients were clinically improved.Let me take out these results on each category to arrive a better conclusion.

AGE AND KAALAM DISTRIBUTION:

In this study is more in the age group 36-45 years (35%),26-35 years(30%),46-55 years(25%),and another 10% are affected in the age group 15-25years.

SEX DISTRIBUTION:

Out of 20 cases,75% of cases were female,25% of cases were male.From the study more percentage of females were affected than male.

KAALAM DISTRIBUTION:

Major of the patients were reported in their pitha kaalam(75%),

OCCUPATION:

Housewives were highly affected (55%), and office workers were affected 20%, coolies were affected 15%, and business man was affected 10%.

SOCIO-ECONOMIC STATUS:

During the study 40% cases were from lower-middle economic status, 35% were from low socio-economic status,25% were from upper middle socio-economic status.

DIET:

Most of the patients are come under mixed diet category.

FAMILY HISTORY:

15% of patients are having the family history.

THINAI:

From the study 95% of patients from Neithal,and 5% of patients from Marutham.

SEASONAL REFERENCE:

Most of the patients were reported Kaar and Muthuvenil(40%).

CLINICAL FEATURES:

All patients have unilateral headache,and insomnia.90% of patients have nausea,vomiting, and lacrimation,80% of patients have photophobia, phonophobia and loss of appetite,40% of patients have dizziness,30% of patients have constipation and 10% of patients have cough and aggravation of pain during menstruation.

MUKKUTRAM:

Vatham:

In all patients (100%) viyanan,and devathathan were affected resulting in unilateral headache, and insomnia.

In 90% of patients were affected uthanan resulting in nausea and vomiting.

In 80% of patients were affected samanan,koorman and kirukaran were affected resulting in loss of appetite and lacrimation.

Pitham:

In all patients sathaga pitham was affected causing unilateral headache.

In 80% of patients anarpitham was affected resulting in loss of appetite.

Kapham:

Avalambagam was was affected 10% of patients resulting in cough.

Kilethagam was affected in 80% of patients resulting in loss of appetite.

Tharpagam was affected in 30% of patients resulting in lacrimation.

UDAL THATHUKKAL:

In 100% of patients saaram was affected causing tiredness.seneer in 60% and enbu in 20%.

ENVAGAI THERVU:

In 100% of patients sparisam was affected due to unilateral headache.

In Niram and vizhi was affected in 20% resulting in anaemia.

In 30% of patients Malam was affected in due to constipation.

NAADI:

55% patients had kaphavatham,25% of patients had pithavatham and 20% of patients had vathapitham.

NEIKURI:

60% of patients had vatha neer, 15% of patients had pitha neer,and kapha neer.

RESULTS AFTER TREATMENT:

All cases were treated with trial medicines for a period ranges from 48 days.75% of cases having good,15% of patients having moderate and 10% of patients having mild result.

TRIAL MEDICINES:

- Before administering the trial medicines all the patients were given Agasthiyar kulambu – 65mg od with hot water at early morning for purgation neutralizes the vatha kutram.
- The trial medicine Sathikkai podi with kaarppu as predominant taste was administered.

- Kaarppu taste acts as good appetizer and it eliminates the kuttram,flatulence and anaemia.It neutralize the kapha kutram and rejuvenates the blood vessels. It keeps the body in good condition.
- Therefore the trial medicine will neutralize the kutram through Oppurai.

TOXICOLOGICAL STUDIES:

- Acute and subacute toxicity studies were conducted on experimental rats at Vels College of pharmacy.
- At the end of the toxicity studies the animals were sacrificed and the haematological parameters,liver function test,renal function test and histopathology of vital organs like liver,lungs,spleen,and kidney were carried out.The results show the Sathikkai podi did not reveal any abnormality.

BIOCHEMICAL ANALYSIS:

- The sodium carbonate extract of the medicines were tested for acid radicals, basic radicals and miscellaneous compounds.
- The results shows Sathikkai podi shows chloride,potassium,sodium,sugar and protein.

PHARMACOLOGICAL STUDIES:

Sathikkai podi in exhibited analgesic activity in-vitro method.

STASTICAL ANALYSIS:

- In both subjective and objective parameters were stastically significant.
- Out of 20 cases ,75% had good result,15% had moderate result and 10% had mild result.
- The statiscal analysis of the results obtained from the clinical study was very much encouraging.

SUMMARY

The results obtained from the studies are summarized below:

- ✓ High incidence of cases was noted in the age group 36-45 years (35%) from lower middle socio-economic group(40%) in their pitha kaalam(75%).
- ✓ 90% of patients are Non-vegetarian.
- ✓ Majority of belong to Neithal and Muthuvenil and Kaar kaalam (40%).
- ✓ In observing the Mukkutram,

In vali-Viyanan,Uthanan,Samanan,Koorman,Kirukaran and Devathathan.

In Azhal-Analpitham, Ranjagam,Alosagam and sathagam.

In Iyam-kilethagam, tharpagam and santhigam.

- ✓ In Udalthathukkal,Saaram,and Senneer are affected in majority of patients.
- ✓ In Envagai thervugal Naa, Vizhi ,sparisam and Malam are affected in majority of patients.
- ✓ Most of the patients had kaphavatha naadi.
- ✓ In Oruthalai vatha petham all patients had unilateral headache, insomnia, 90% of patients had nausea,vomiting,and lacrimation,80% of patients had loss of appetite,photophobia and phonophobia.
- ✓ The trial medicine having kaarpu taste neutralizes the deranged Vatham.
- ✓ The ingredients of the trial drugs have anti-vatha,anti-spasmodic and carminative action.
- ✓ The preclinical studies show that the medicines were safe with significant analgesic activity.
- ✓ The clinical trial shows that there is significant improvement in the clinical manifestations of Oruthalai vatha petham.

- ✓ There is 100% relief from dizziness, cough,loss of appetite,and phonophobia.
- ✓ The preclinical and clinical data were analysed stastically and observed that they are significant in relieving the symptoms.
- ✓ Also the trial drugs are affordable to all the patients.

CONCLUSION

- **ORUTHALAI VATHA PETHAM** is primarily due to the derangement of vatham and kapham.
- The trial medicines Sathikkai podi and Vettiver thylum predominating with kaarppu and kaippu taste respectively neutralizes the vatham and kapham.
- From the pre-clinical,pharmacological studies it is evided that the trial medicines were significant analgesic activity.
- Prolonged duration,the Sathikkai podi not produce any toxicity in clinical trial.
- The trial medicines reduce the unilateral headache, nausea ,vomiting, photophobia,phonophobia,dizziness,Lacrimation, insomnia and loss of appetite. Therefore, the trial medicines are beneficial in treating Oruthalai vatha petham.
- No contra indications were reported during the course of the treatment.
- The trial medicines are easily available in wide and dosage is minimal in quantity.
- The trial medicines gave maximum relief from the symptoms of Oruthalai vatha petham.
- Therefore,I conclude that my trial medicine is best solution for Oruthalai vatha petham.(Migraine)

ANNEXURE –I

CHEMICAL ANALYSIS OF TRIAL MEDICINES

Preparation of Sodium Carbonate extract: 2 gm of the sample is mixed 5 gm of Sodium carbonate and taken in a 100 ml beaker and 20 ml of distilled water is added. The solution is boiled for 10 minutes, cooled and then filtered. The filtrate is called sodium carbonate extract.

S.No.	Experiment	Drug	
		Observation	**Inference**
1	Test for Acid Radicals		
a.	**Test for Sulphate** 2 ml of the above prepared extract is taken in a test tube. To this add 2ml of 4% Ammonium oxalate solution.	Absence of White Precipitate	Absent
b.	2ml of extract is added with 2ml of dilute hydrochloric acid until the effervescence ceases off. Then 2ml barium chloride solution is added.	Absence of White Precipitate	Absent
2.	**Test for Chloride:** 2ml of extract is added with dilute nitric acid till the effervescence ceases. Then 2ml of silver nitrate solution is added.	white precipitate is obtained	present
3.	**Test for Phosphate** 2ml of the extract is treated with 2 ml of Ammonium molybdate solution and 2ml of concentrated nitric acid.	Yellow Precipitate is obtained.	Present
4.	**Test for Carbonate:** 2ml of the extract is treated with 2ml of magnesium sulphate solution.	Absence of white precipitate	Absent
5.	**Test for Sulphide:** 1 gm of the substance is treated with 2ml of concentrated Hydrochloric acid	Absence of Rotten egg smelling	Absent
6.	**Test for Nitrate:** 1gm of the substance is heated with copper turnings and concentrated sulphuric acid and viewed the test tube vertically down.	Absence of reddish brown gas.	Absent
7. a.	**Test for Fluoride and oxalate** 2ml of the extract is added with 2ml of dilute acetic acid and 2ml of calcium chloride solution and heated.	Absence of white precipitate	Absent

b.	5 drops of clear solution is added with 2ml of dilute sulphuric acid and slightly warmed to this, 1 ml of dilute potassium permanganate solution is added.	Absence of KMNO4 solution discolourisation.	Absent
8.	**Test for Nitrite** 3 drops of the extract is placed on a filter paper. On that, 2 drops a Acetic Acid and 2 drops of Benzidine solution is placed.	Absence of yellowish red colour	Absent
9.	**Test for Borate** 2 pinches of the substance is made into paste by using Sulphuric acid and Alcohol (95%) and introduced into the blue flame.	Absence of Green tinged flame	Absent
II. TEST FOR BASIC RADICALS			
10.	**Test for lead** 2 ml of the extract is added with 2 ml of Potassium iodide solution	Absence of Yellow precipitate	Absent
11a	**Test for Copper** One pinch of substance is made into paste with concentrated Hydrochloric acid in a watch glass and introduced into the non luminous part of the flame.	Bluish green coloured flame is obtained.	Present
b.	2ml of the extract is added with excess of Ammonia solution	Absence of deep blue	Absent
12.	**Test for Aluminium** To the 2 ml of extract. Sodium Hydroxide solution is added in drops to excess.	Absence of White precipitate.	Absent
13a	**Test for Iron** To the 2 ml of extract, 2 ml of Ammonium Thiocyanate solution is added.	Absence of Blood red colour	Absent
b.	To the 2 ml of extract, 2 ml of Ammonium Thiocyanate solution and 2 ml of concentrated Nitric Acid is added.	Blood red colour is obtained.	present
14.	**Test for Zinc** To the 2 ml of extract Sodium Hydroxide solution is added in drops to excess.	White precipitate is obtained	Present
15.	**Test for Calcium** 2 ml of the extract is added with 2 ml of 4% Ammonium Oxalate solution.	Absence of White precipitate.	Absent
16.	**Test for Magnesium** 2ml of extract, Sodium Hydroxide solution is added in drops to excess.	Absence of White precipitate.	Absent
17.	**Test for Ammonium** 2 ml of extract few ml of Nessler's Reagent and excess of Sodium Hydroxide solution are added.	Reddish brown precipitate is obtained	Present

18.	**Test for Potassium** A pinch of substance is treated with 2 ml of Sodium Nitrite solution and then treated with 2 ml of Cobal Nitrate in 30% glacial Acetic acid.	Yellow precipitate is obtained	Present
19.	**Test for Sodium** 2 pinches of the substance is made into paste by using Hydrochloric acid and introduced into the blue flame.	Yellow colour flame is developed	present
20.	**Test for Mercury** 2 ml of the extract is treatedwith 2 ml of Sodium Hydroxide solution.	Absence of yellow precipitate	Absent
21.	**Test for Arsenic** 2 ml of extract is treated with 2 ml of silver Nitrate solution	Absence of Yellow precipitate.	Absent
22.	**Test for Starch** 2ml of extract is treated with weak iodine solution	Bluecolour is obtained .	Present
23.	**Test of reducing Sugar** 5ml of Benedicts qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 10 drops of the extract and again boiled for 2 minutes. The colour changes are noted.	Green colour is obtained.	Present
24.	**Test of the alkaliods** 2ml of the extract is treated with 2ml of potassium lodide solution	Absence of red colour	absent
25	**Test of Proteins Biuret test** Take 2ml of solution and 2ml of 5% sodium hydroxide.Mix and add 2 drops of copper sulphate solution	Aviolet colour is formed.	Present

RESULTS:

The given sample contains.

Drug: sathikkai podi

Chloride, sodium, potassium, reducing sugar and protein.

ACUTE AND SUB ACUTE TOXICITY STUDY ON SATHIKKAI PODI

Animals:

Mice of either sex weighing 25-30g and rats weighing 210-240g were obtained from the animal house of Vels University. The animals were used with the approval of the Institute animal ethics committee and obtained from Vels University, Chennai. They were fed with a balanced standard pellet diet and maintained under standard laboratory conditions, providing 24-28^{0}C temperature, standard light cycle (12 h light, 12 h dark) and water ad libitum. Animals were kept in cages with raised floors of wide mesh to prevent coprophagy. Animal welfare guidelines were observed during the maintenance period and experimentation. The rats were randomly assigned to control and different treatment groups, six animals per group. The animals were acclimatized for one week under laboratory conditions.

ACUTE TOXICITY STUDY-OECD 425 GUIDELINES

Acute oral toxicity test for the Sathikkai Podi was carried out as per OECD Guidelines 425. As with other sequential test designs, care was taken to ensure that animals are available in the appropriate size and age range for the entire study. The test substance is administered in a single dose by gavage using a stomach tube or a suitable intubation cannula. The fasted body weight of each animal is determined and the dose is calculated according to the body weight. After the substance has been administered, food was withheld for a further 2 hours in mice. The animals were observed continuously for the first 4 h and then each hour for the next 24 h and at 6 hourly intervals for the following 48 h after administering of the test drug, to observe any death or changes in general behaviour and other physiological activities. Single animals are dosed in sequence usually at 48 h intervals. However, the time interval between dosing is determined by the onset, duration, and severity of toxic signs. Treatment of an animal at the next dose was delayed until one is confident of survival of the previously dosed animal.

Observation of toxicity signs: General behavior, respiratory pattern, cardiovascular signs, motor activities, reflexes, change in skin and fur, mortality

and the body weight changes were monitored daily. The time of onset, intensity, and duration of these signs, if any, was recorded.

SUB-ACUTE TOXICITY

In a 28-days sub acute toxicity study, twenty four rats were divided into four groups of 6 rats each. Group I that served as normal control was administered with distilled water (p.o.) while groups II, III and IV were administered daily with the Sathikkai Podi (p.o.) for 28 days at a dose of 1.0, 2.0 and 4.0 g/kg respectively. The animals were then observed daily for gross behavioural changes and any other signs of subacute toxicity. The weight of each rat was recorded on day 0 and weekly throughout the course of the study, food and water consumption per rat was calculated. At the end of the 28 days they were fasted overnight, each animal was anaesthetized with diethylether, following which they were then dissected and blood samples were obtained by cardiac puncture into heparinised tubes. The blood sample collected from each rat was centrifuged with 3000 X g at 4^{o}C for 10 min to separate the serum and used for the biochemical assays.

Hematological and blood biochemical analyses:

At the end of the study, all animals were kept fasted for 16-18 h and then anesthetized with anesthetic ether on the 28th day. Blood samples for hematological and blood chemical analyses were taken from retro orbital vein. Heparinized blood samples were taken for determining complete blood count (white blood cell count, differential white blood cell count, platelet count, red blood cell count, hematocrit, and hemoglobin) by semiautomated hematology analyzer. The serum from non-heparinized blood was carefully collected for blood chemistry and enzyme analysis glucose, creatinine, total protein, albumin, total and direct bilirubins, serum glutamate-oxaloacetate transaminase (SGOT), serum glutamate pyruvate transaminase (SGPT), and alkaline phosphatase (ALP) were automatically determined using autoanalyzer.

Necropsy:

All rats were sacrificed after the blood collection. The positions, shapes, sizes and colors of internal organs were evaluated. The Spleen, Testes, Pancrea, Lung, Liver, Brain, Heart, Stomach, Intestine, Bone, Ovary, and Kidney tissues

were excised from all rats to visually detect gross lesions, and weighed to determine relative organs' weights and preserved in 10% neutral formalin for histopathological assessment. The tissues were embedded in paraffin, and then sectioned, stained with haematoxylin and eosin and were examined microscopically.

Statistical analysis

Values were represented as mean ± SEM. Data were analysed using one-way analysis of variance (ANOVA) and group means were compared using the Tukey-Kramer Multiple Comparison test using Graph Pad Instat-V3 software. $P<0.05$ were considered significant.

RESULTS

1) All the animals from control and all the treated dose groups up to 400 mg/kg survived throughout the dosing period of 28 days.

2) No signs of major or significant intoxication were observed in animals from lower to higher dose groups during the dosing period of 28 days.

3) Animals from all the treated dose groups exhibited comparable body weight gain with that of controls throughout the dosing period of 28 days.

4) Food consumption of control and treated animals was found to be comparable throughout the dosing period of 28days.

5) Ophthalmoscopic examination, conducted prior to and at the end of dosing period on animals from control and all the treated dose groups did not reveal any abnormality.

6) Haematological analysis conducted at the end of the dosing period on day 28, revealed no significant abnormalities attributable to the treatment.

7) Biochemical analysis conducted at the end of the dosing period on day 28, revealed no remarkable abnormalities attributable to the treatment.

8) Functional observation tests conducted at termination revealed no abnormalities.

9) Urine analysis, conducted at the end of the dosing period in week 4, revealed no abnormality attributable to the treatment.

10) Organ weight data of animals sacrificed at the end of the dosing period was found to be comparable with that of respective controls.

11) Gross pathological examination did not reveal any abnormality.

12) Histopathological examination did not reveal any abnormality.

CONCLUSION

Based on these findings, no toxic effect was observed upto 400mg/kg of Sathikkai Podi on administration into oral route over a period of 28 days. So, it can be concluded that the Sathikkai Podi can be prescribed for therapeutic use in human with the dosage recommendations of upto 400mg/kg. body weight p.o.

Table 1: Dose finding experiment and its behavioral Signs of Toxicity

No	Dose mg/kg	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	**2000**	+	-	-	+	-	+	+	-	-	-	-	-	-	+	-	-	-	-	-	-
2	**4000**	+	-	-	-	-	+	-	+	-	-	-	-	-	+	-	-	-	-	+	-

1. Alertness 2. Aggressiveness 3. Pile erection 4. Grooming 5. Gripping 6. Touch Response 7. Decreased Motor Activity 8. Tremors 9. Convulsions 10. Muscle Spasm 11. Catatonia 12. Muscle relaxant 13. Hypnosis 14. Analgesia 15.Lacrimation 16. Exophthalmos 17. Diarrhoea 18. Writhing 19. Respiration 20. Mortality

Table 2. Body wt (g) of rats exposed to Sathikkai Podi for 28days.

Dose (mg/kg/day)	Days				
	1	**7**	**14**	**21**	**28**
Control	116.23±5.10	118.36±5.24	122.21±5.12	125.40±6.12	127.04±5.42
100	121.30±4.22	123.10±5.11	124.10±5.82	125.42±6.00	126.44±5.11
200	114.14±5.10	119.05±4.40	121.21±5.43	124.12±6.12	126.30±4.02
400	115.12±5.22	118.02±5.24	120.10±6.33	121.78±6.28	124.12±5.37

Values are mean ± S.E.M. (Dunnet 't' test). $^{ns}P>0.05$. Vs. Control group N=6.

Table 3. Food (g/day) intake of rats exposed to Sathikkai Podi for 28days.

Dose (mg/kg/day)	Days (gms/rats)				
	1	7	14	21	28
Control	43.12±2.42	44.12±2.28	45.52±2.17	46.10±2.42	47.23±3.00
100	42.22±2.52	44.19±2.10	46.40±2.20	45.22±2.14	46.15±3.00
200	41.31±2.34	42.14±2.12	45.26±2.25	45.48±2.15	46.42±3.22
400	42.10±2.46	42.24±2.43	46.24±2.42	45.23±2.00	45.21±2.18

Values are mean ± S.E.M. (Dunnet 't' test). $^{ns}P>0.05$. Vs. Control group N=6.

Table 4. Water (ml/day) intake of rats exposed to Sathikkai Podi for 28days.

Dose (mg/kg/day)	Days(ml/rat)				
	1	7	14	21	28
Control	51.32±2.22	52.55±3.34	54.24±3.22	55.15±3.74	54.55±3.26
100	50.21±2.24	50.12±3.00	52.14±4.24	56.61±3.85	58.15±2.48
200	47.04±2.24	45.12±3.52	46.02±3.10	47.17±2.18	49.14±3.82
400	52.12±3.34	51.91±3.14	50.28±3.15	51.22±3.14	51.20±3.40

Values are mean ± S.E.M. (Dunnet 't' test). $^{ns}P>0.05$. Vs. Control group N=6.

Table 5. Effect of Sathikkai Podi on Hematological and Biochemical blood parameters of rats after 28 days.

Parameter	Treatment and Dose			
	Control	Sathikkai Podi (100mg/kg)	Sathikkai Podi (200mg/kg)	Sathikkai Podi (400g/kg)
WBC($X10^3$/µL)	12.4±3.2	12.1±2.6	11.8±2.5	12.5±3.1
RBC($X10^{12}$/l)	6.22±0.12	6.10±0.15	6.20±0.14	6.28±0.20
Hemoglobin(g/dl)	12.15±0.34	12.42±0.48	12.33±0.52	12.24±0.77
Hematocrit (%)	0.35±0.04	0.35±0.05	0.36±0.04	0.35±0.04
MCV (fl)	53.6±0.4	52.0±0.4	52.2±0.5	53.4±0.5
MCHC (g/dl)	35.1±0.3	36.0±0.4	35.7±0.8	34.2±0.6
MCH (pg)	20.82±0.4	20.15±0.3	21.20±0.4	20.11±0.5
Platelet count ($X10^9$/l)	912.4±131	922.8±128	961.2±134	941.6±124
Bilirubin	1.22±0.5	1.11±0.04	1.02±1.4	1.20±1.1
ALT (µ/l)	74.1±4.2	75.10±5.0	74.31 ± 4.4	75.22±4.2
AST (µ/l)	130.4±3.0	124.10±2.7	128.15±2.5	127.32± 3.0
Creatinine (µ/l)	28.55±2.4	28.20±2.8	28.52 ± 3.1	28.24 ± 3.0
Cholesterol (mmol/l)	45.24±2.5	44.35±2.4	45.42±2.8	44.35±2.2
Alkaline Phosphate(µ/l)	79.78±3.1	80.1±3.2	78.94±2.8	81.10±3.0
Triglyceride (µ/l)	25.42±3.2	25.24±2.8	24.56±3.0	24.14±3.2

Values are mean of 6 animals ± S.E.M. (Dunnet's test). *P<0.05; **P<0.01. Vs. Control

Table 6: Effect of Sathikkai Podi on vital organ weight in 28 day sub-acute toxicity study

Organs	Control	Sathikkai Podi (100mg/kg)	Sathikkai Podi (200mg/kg)	Sathikkai Podi (400mg/kg)
Lung	1.22 ± 0.05	1.25 ± 0.05	1.24 ± 0.04	1.28 ± 0.05
Heart	0.82 ± 0.04	0.83 ± 0.05	0.84 ±0.05	0.82 ± 0.04
Liver	6.50 ± 0.21	6.42 ± 0.19	6.40 ± 0.22	6.38 ± 0.20
Pancreas	0.82 ± 0.05	0.83 ±0.05	0.81 ± 0.04	0.82 ± 0.05
Spleen	0.60 ± 0.02	0.58 ± 0.02	0.61 ± 0.03	0.59 ± 0.02
Adrenal	0.05 ± 0.01	0.05 ± 0.00	0.05± 0.00	0.05 ± 0.01
Kidney	0.78 ± 0.04	0.78 ± 0.05	0.76 ± 0.04	0.77 ± 0.04
Ovary	0.08 ± 0.04	0.07 ± 0.03	0.08 ± 0.04	0.08 ± 0.03
Brain	0.45 ± 0.04	0.46 ± 0.05	0.45 ± 0.05	0.44 ±0.06

Values are mean of 6 animals ± S.E.M. (Dunnet's test). *P<0.05; **P<0.01. Vs.

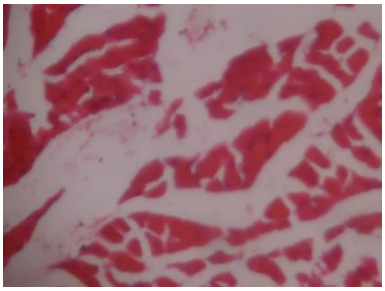
Table 4- Urine Analysis

Parameters	Control	Sathikkai Podi (100mg/kg)	Sathikkai Podi (200mg/kg)	Sathikkai Podi (400mg/kg)
Colour	Yellow	Yellow	Yellow	Yellow
Transparency	Clear	Slightly turbid	cloudy	Slightly turbid
Specific gravity	1.010	1.010	1.010	1.010
PH	>7.2	>8.0	>8.0	>9.0
Protein	Nil	3+	3+	3+
Glucose	Nil	Nil	Nil	Nil
Bilirubin	-ve	-ve	-ve	-ve
Ketones	-ve	+ve	+ve	+ve
Blood	Absent	Absent	Absent	Absent
Urobilinogen	Normal	Abnormal	Abnormal	Abnormal
Pus cells	0-cells/HPF	1-cell/HPF	2-cells/HPF	1-cell/HPF
RBCs	Nil	Nil	0-1cells/HPF	Nil
Epithelial cells	Nil	1-cell/HPF	Nil	1-cell/HPF
Crystals	Nil	Nil	Nil	Nil
Casts	Nil	Nil	Nil	Nil

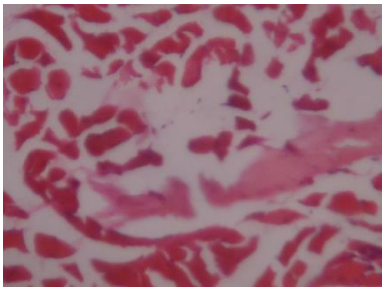
HISTOPATHOLOGY SLIDES

Bone

100 mg



200mg



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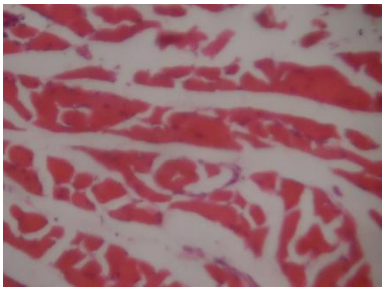
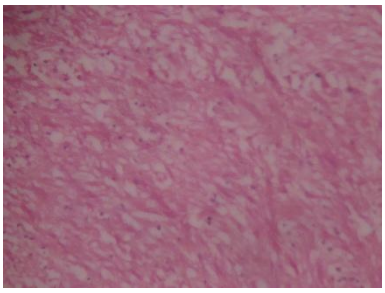


Brain

100 mg



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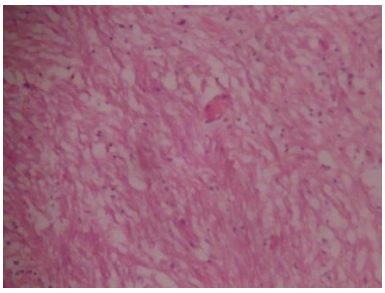

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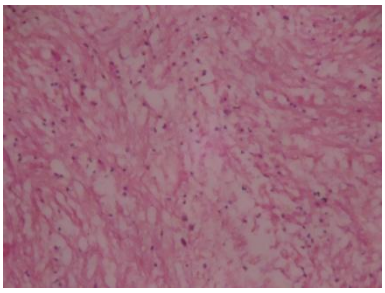
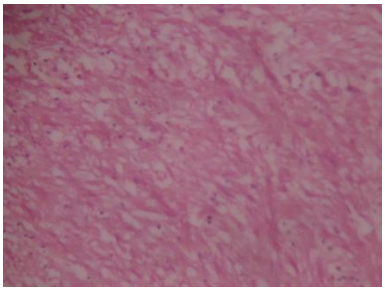


Heart

100 mg



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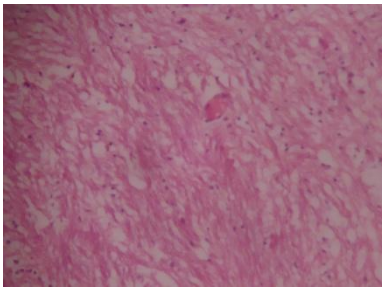

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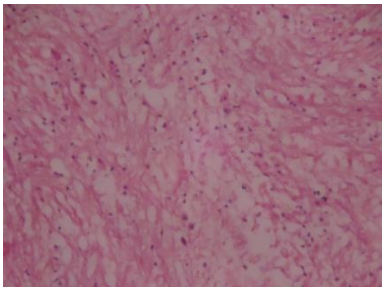
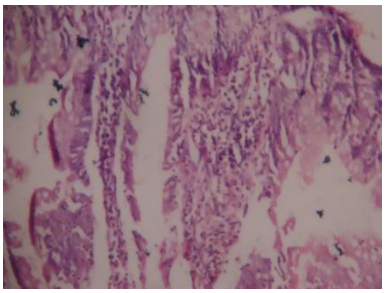
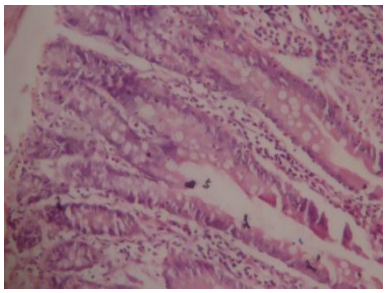
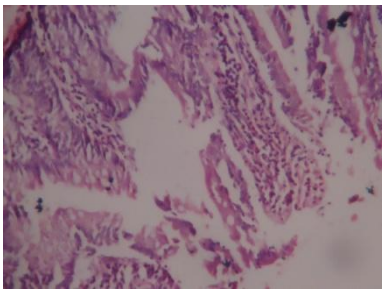


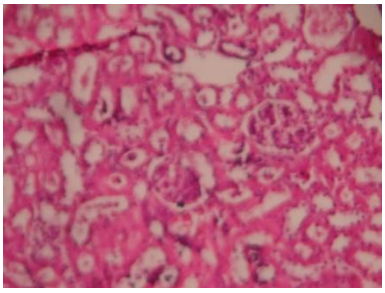
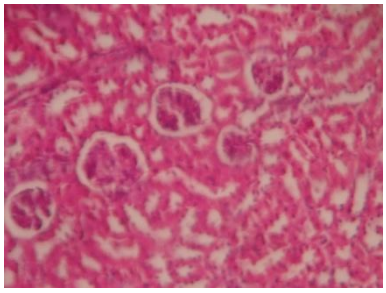
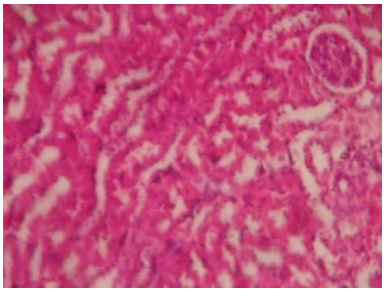
100 mg 200mg 400mg

Intestine

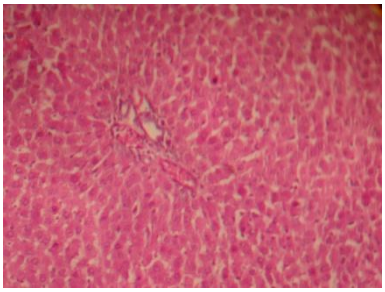
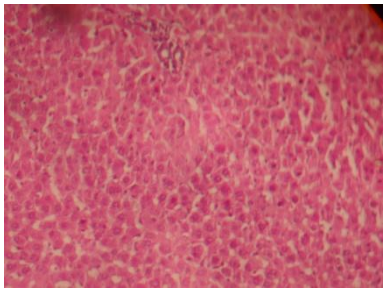
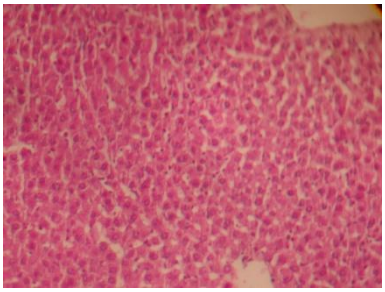
100 mg 200mg 400mg

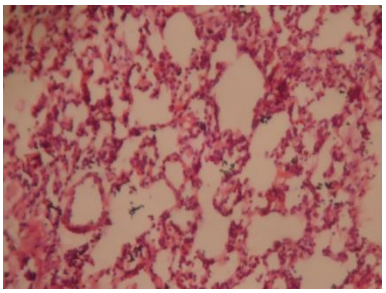
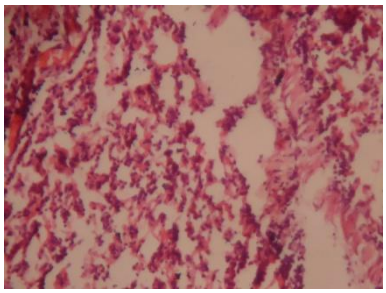
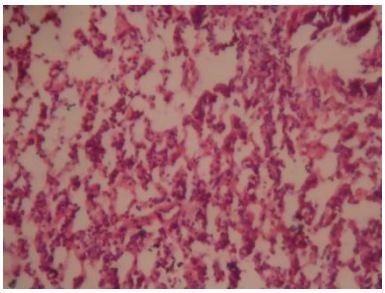
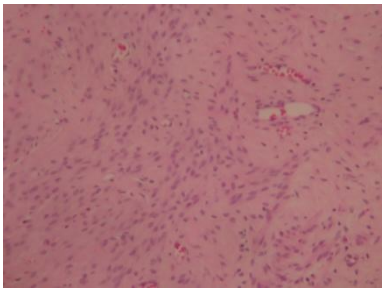
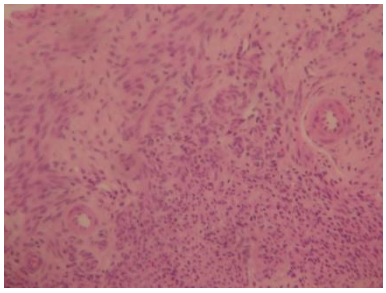
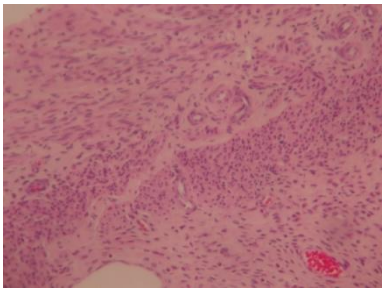
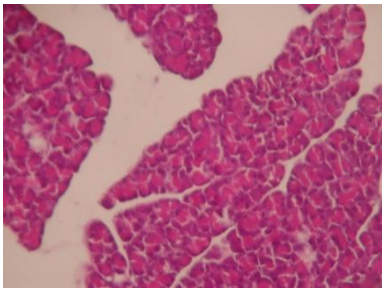
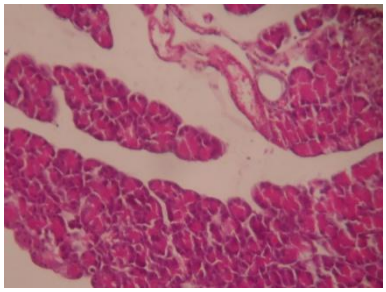
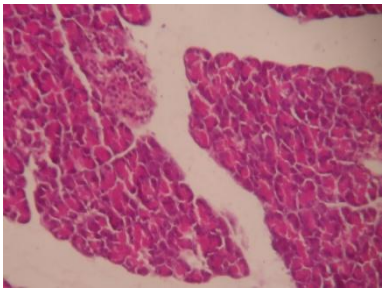
Kidney

100 mg 200mg 400mg

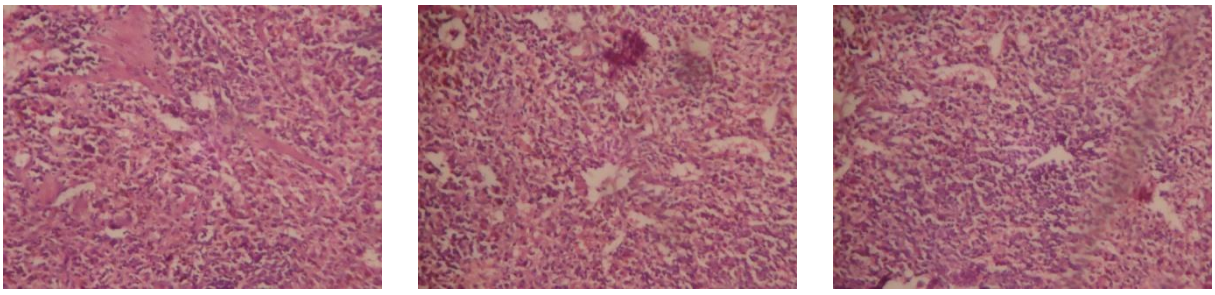
Liver

	100 mg	200mg	400mg
Lung			
	100 mg	200mg	400mg
Ovary			
	100 mg	200mg	400mg
Pancreas			

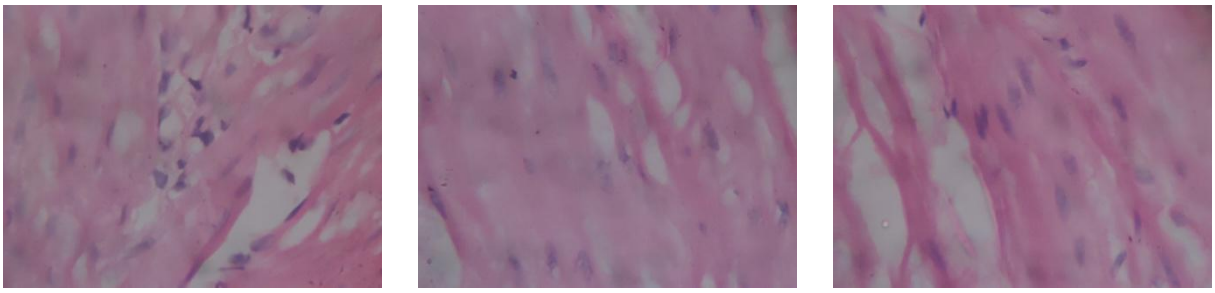
100 mg 200mg 400mg

Spleen



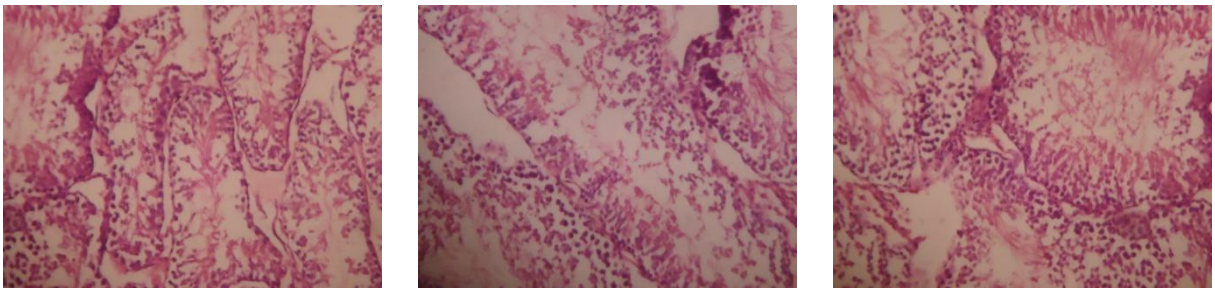
100 mg 200mg 400mg

Stomach



100 mg 200mg 400mg

Testis



ANALGESIC ACTIVITY OF SATHIKKAI PODI IN MICE

INTRODUCTION

WHO estimated that 80% of the people of the world living in developing countries rely on medicinal plants for primary health care needs. The high cost of acquiring synthetic drugs, their inadequate supplies, the side effects associated with their uses, and the belief that plants hold cure to many painful conditions have led to a reawakening of interest in the utilization of plants and plant products in recent years. The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage. Pain can be divided into two categories: acute pain and chronic pain.

1. **Acute pain**

   Also known as "warning pain", this type of pain comes on suddenly and signals that something is wrong inside the body. A classic example of this type of pain is an injury that results in a broken bone. The pain is sudden and warns the person that something has gone wrong. Infections, tumors, and internal bleeding are other examples. Acute pain can sometimes be eliminated by treating the underlying cause. A person may respond to chronic pain with fear, anxiety, and restlessness. If the underlying cause in untreatable, the pain may develop into chronic pain.

2. **Chronic pain**

   Chronic pain results when the underlying cause of pain cannot be treated. It is persistent and sometimes debilitating. This type of pain is often associated with a long-term or life-threatening illness. A person experiencing chronic pain may be depressed, withdrawn, and exhausted.

Physiological Types of Pain

It is easier to understand pain, locate its cause, and treat it by using physiological explanations of it. Pain can be divided into two types of physiological explanations: Nociceptive and Neuropathic.

Nociceptive Pain

This type of pain can either be somatic or visceral. Somatic pain results from injury to parts of the body such as bones, joints, and soft tissues. It is usually well localized, and is often described as sharp, dull, aching, throbbing, or gnawing. Examples would include bone fractures, metastastatic cancer to the bone, tumors, and arthritis. Visceral pain results from inflammation, distension, or stretching of the internal organs. It is not well localized and is often described as aching, cramping, deep pain, or pressure.

Neuropathic Pain

Neuropathic pain results from injury to nerves in either the central nervous system or the peripheral body. It can be described as burning, tingling, shooting, stabbing, or shocking. Injury to the brain, brain tumors, diabetic neuropathy, and herpes zoster are all examples of things that may cause this type of pain. Neuropathic pain can be more difficult to treat than nociceptive.

Several modern drugs are used to treat these disorders but, their prolonged use may cause severe adverse side effects, the most common being gastrointestinal bleeding and peptic ulcers. Consequently, there is a need to develop new analgesic agents with minimum side effects. There is a need to intensify research into medicinal flora especially those claimed to have beneficial effects in serious disorders. The aim of the present study was to investigate the analgesic activity of Sathikkai Podi because now a day the use of herbal medicine is becoming more popular in both developing and developed countries.

MATERIALS AND METHODS

Drugs and chemicals

Acetic acid, and CMC, all from Sigma-Aldrich Chemicals were the chemicals used. The standard drugs aspirin and Pentazocin was procured from the local market. All the other chemicals and drugs used were of analytical grade.

Stock solution preparation

The test drug Sathikkai Podi 200mg of fine powder form was accurately weighed using electronic balance and mixed thoroughly with 5ml of 2% Carboxy Methyl Cellulose (CMC) solution to achieve 40mg/ml stock solution as a suspension and this was used for further study.

Animals

Albino mice (24–28 g) either sex were obtained from the animal house of animal housing facility of department of pharmacology, Vels University, Chennai. Animals were maintained at standard laboratory conditions and fed with standard feeding pellets (Sai durga foods, Bangalore). Prior to treatment, the animals were fasted for 10 and 12 h respectively. However, water was made available ad libitum. (Approval number: XIII/VELS/PCOL/18/2000/CPCSEA/IAEC/08.08.2012).

Experimental Methods

Acute toxicity safety Study

Acute oral toxicity test for the Sathikkai Podi was carried out as per OECD Guidelines 425. As with other sequential test designs, care was taken to ensure that animals are available in the appropriate size and age range for the entire study. The test substance is administered in a single dose by gavage using a stomach tube or a suitable intubation cannula. The fasted body weight of each animal is determined and the dose is calculated according to the body weight. After the substance has been administered, food was withheld for a further 2 hours in mice. The animals were observed continuously for the first 4 h and then each hour for the next 24 h and at 6 hourly intervals for the following 48 h after administering of the test drug, to observe any death or changes in general behaviour and other physiological activities. Single animals are dosed in sequence usually at 48 h intervals.

However, the time interval between dosing is determined by the onset, duration, and severity of toxic signs. Treatment of an animal at the next dose was delayed until one is confident of survival of the previously dosed animal. General

behavior, respiratory pattern, cardiovascular signs, motor activities, reflexes, change in skin and fur, mortality and the body weight changes were monitored daily. The time of onset, intensity, and duration of these signs, if any, was recorded.

Evaluation of analgesic activity by Eddy's Hotplate method

The hot-plate test method was employed to assess the analgesic activity. The temperature of the cylinder was set at 55 ± 0.5^{0}C. The experimental mice were divided into four groups. Each mouse acted as its own control. Prior to treatment, the reaction time of each mouse (licking of the forepaws or jumping response) was done at 0 and 10min interval. The average of the two readings was obtained as the initial reaction time. The reaction time following the administration of the Sathikkai Podi (100, 200, 400mg/kg, p.o.), Pentazocine (5mg/kg) and Saline (p.o.), was measured at 30, 60, 90 and 120 minutes after a latency period of 30 mins. The pain inhibition percentage was calculated according to the following formula:

Pain inhibition percentage = $((T_1-T_0)/T_0) \times 100$

T_1 is post-drug latency and T_0 is predrug latency.

Writhing test

The antinociceptive property of Sathikkai Podi was tested using the model of writhing response in mice. Swiss albino mice of either sexes weighing 20-30 g were used. The writhing syndrome was elicited by an intraperitoneal injection of 0.7% acetic acid at the dose of 0.1ml/10 g body weight. For the test group of animals Sathikkai Podi at the dose level of 100, 200, 400mg/kg, p.o. and for control group vehicle saline and Aspirin 100mg/kg was orally administered into the mice 30 min before acetic acid and the number of writhes was noted for 15 min beginning 5 min after acetic acid injection.

Statistical data

Data were presented as mean ± S.E.M. Statistical differences between control and treated groups were tested by one way ANOVA followed by dunnet's test.

RESULTS AND DISCUSSION

Sathikkai Podi did not show acute toxicity up to the maximum dose of 2g/kg and the weight of the mice. It is important to carry out toxicological studies in animal species in order to demonstrate its lack of toxicity. Thermal induced nociception indicates narcotic involvement. Thermal nociceptive tests are more sensitive to opioid μ receptors and non-thermal tests are to opioid κ receptors. Basal reaction time is recorded as mentioned in the method using hot plate. Here the reaction may be hind paw licking or jump response.

Hind paw licking appears within 4-6 sec and after 2-3 sec jumping was shown by the test animals. The hot plate test of norciception screens for substances with central nervous system activity. Sathikkai Podi significantly ($P<0.01$) increased the reaction time of animals towards the thermal source in a dose-dependent manner. In hot plate test Sathikkai Podi showed a pain inhibition percentage at the maximum level of 62% at 90^{th} minute after drug administration whereas Standard drug showed 72% in mice.

The intraperitoneal injection of acetic acid produces an abdominal writhing response due to sensitization chemo-sensitive nociceptors by prostaglandins. Increased level of prostanoids, particularly PGE2 and PGF2 as well as lipoxygenase products have been found in the peritoneal fluid after intraperitoneal injection of acetic acid. The analgesic activity of Sathikkai Podi was determined by writhing test.

In acetic acid induced writhing test aspirin 300mg/kg orally was used as reference compound. The result showed that in control animal mean number of writhes induced by intraperitoneal ingestion of acetic acid was 56 writhes which was reduced to 49, 44 and 32 in animals with 100, 200mg/kg and 400mg/kg oral doses of the Sathikkai Podi respectively. The results of writhes test proved highly significant when compared with aspirin that produced 28 writhes. Aspirin leads to a relief from pain by suppressing the formation of pain inducing substances in the peripheral tissues. Prostaglandin and bradykinin were suggested to play an important role in the pain process.

The percentage inhibition of writhes with different doses of Sathikkai Podi was 12.69, 20.87, and 41.68, whereas with aspirin it was 62.09%. The analgesic

effect of the Sathikkai Podi may therefore be due either to its action on visceral receptors sensitive to acetic acid, to the inhibition of the production of algogenic substances or the inhibition at the central level of the transmission of painful messages.

CONCLUSION

These results support the traditional use of Sathikkai Podi in some painful conditions and gastro intestinal complaints. The Sathikkai Podi potently and significantly prolonged reaction time in mice subjected to thermal stimuli, indicative of an analgesic effect, comparable with the opioid agonist pentazocin.

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Table 1: Dose finding experiment and its behavioral Signs of Toxicity

No	Dose mg/kg	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	**2000**	+	-	-	+	-	+	+	-	-	-	-	-	-	+	-	-	-	-	-	-
2	**4000**	+	-	-	-	-	+	-	+	-	-	-	-	-	+	-	-	-	-	+	-

1. Alertness 2. Aggressiveness 3. Pile erection 4. Grooming 5. Gripping 6. Touch Response 7. Decreased Motor Activity 8. Tremors 9. Convulsions 10. Muscle Spasm 11. Catatonia 12. Muscle relaxant 13. Hypnosis 14. Analgesia 15.Lacrimation 16. Exophthalmos 17. Diarrhoea 18. Writhing 19. Respiration 20. Mortality

Table 2: Effect of Sathikkai Podi on pain induced by hot plate method

Treatment	Dose	Reaction time in sec. before drug	% increase in reaction time after drug treatment			
			30min	60min	90min	120min
Control	Saline 2ml/kg	3.4±0.04	5.2±0.35	14.8±0.42	19.55±0.70	28.15±0.51
Sathikkai Podi	100mg/kg	3.0±0.03	12.5±0.40**	21.19±1.27	42.15±2.86**	33.25±1.42
Sathikkai Podi	200mg/kg	3.2±0.05	22.8±0.65**	33.56±1.51**	52.82±3.00**	42.63±1.32**
Sathikkai Podi	400mg/kg	3.5±0.05	28.1±1.31**	41.05±1.69**	64.15±3.08**	50.12±1.28**
Pentazocine	5mg/kg	3.2±0.06	36.4±2.15**	62.86±3.00**	71.28±4.11**	62.33±2.56**

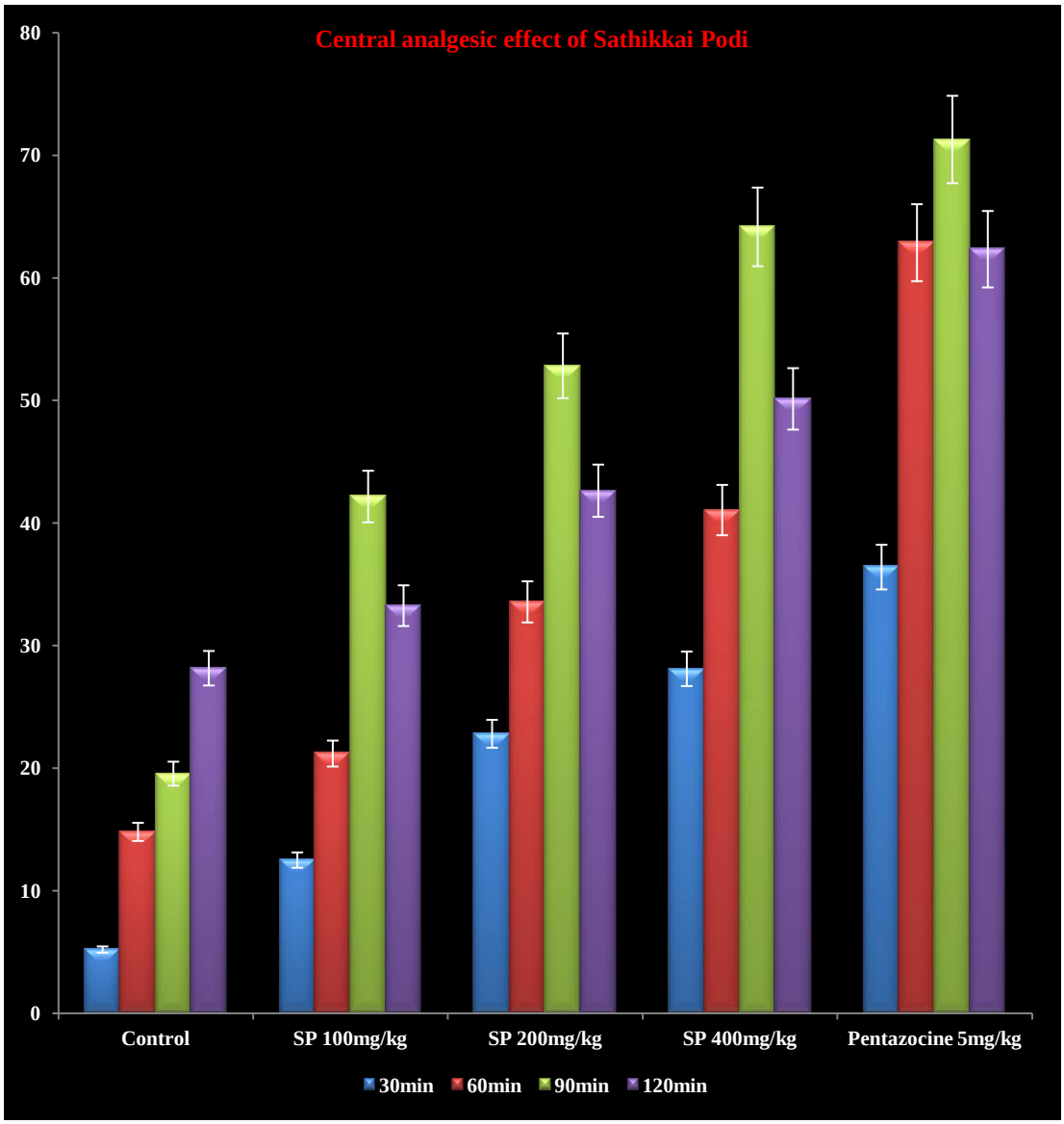
Values expressed in mean ±SEM, Significant **P<0.01 (n=6)

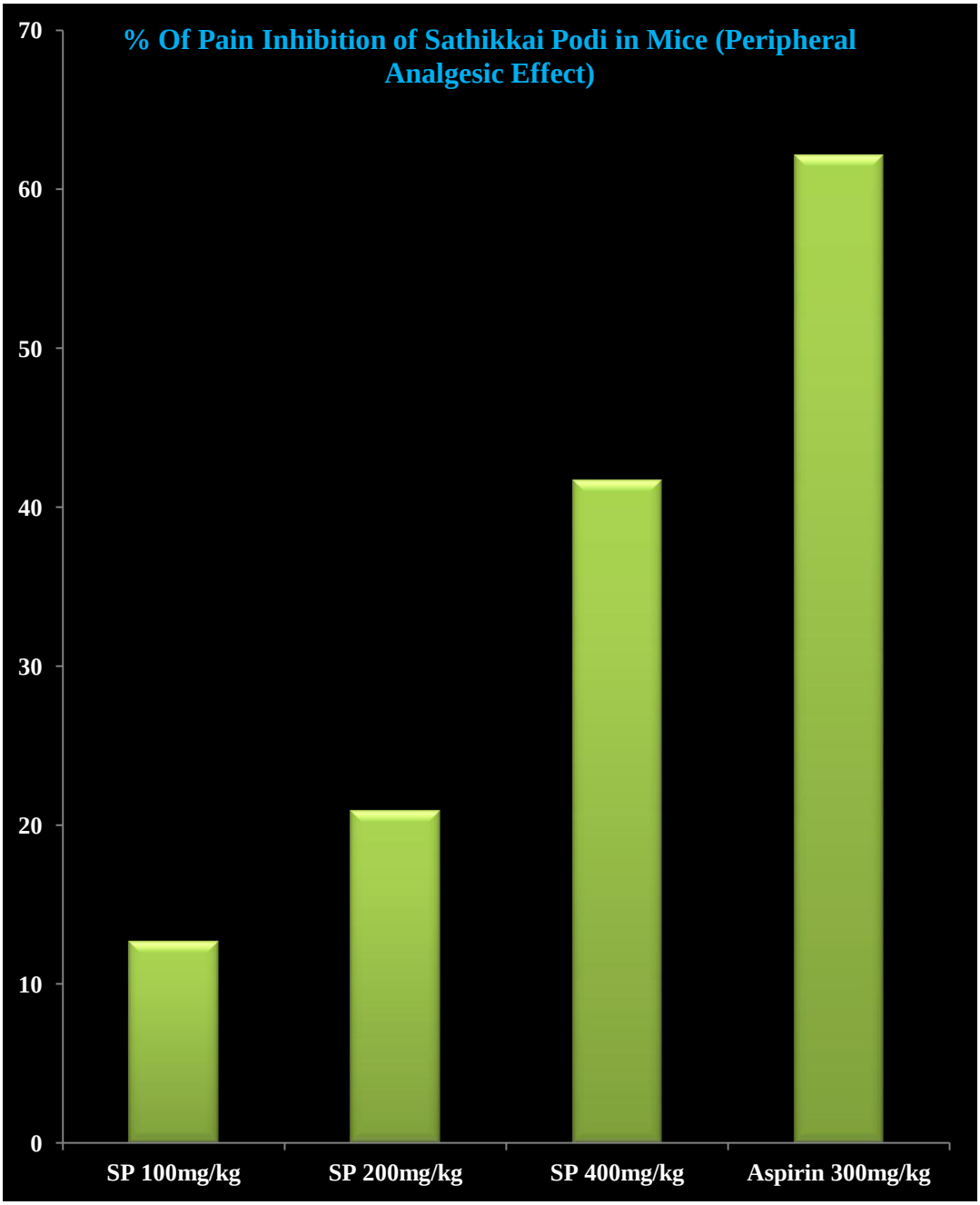
Table –3. Effect of Sathikkai Podi on writhing response in mice

Treatment	**Dose (mg/kg)**	Number of writhes	Inhibition (%)
Control	Saline 2ml/kg	56.38±5.2	-----
Sathikkai Podi	100mg/kg	49.22±5.05	12.69
Sathikkai Podi	200mg/kg	44.61±4.62	20.87
Sathikkai Podi	400mg/kg	32.88±4.19	41.68
Acetyl salicylic acid	100mg/kg	21.37±3.54	62.09

Values are expressed as Mean±S.E.M. Drug and test compounds were given orally 30 min before 0.3% acetic acid injection.

**P<0.01; significantly different from the control group (N=6).


Central analgesic effect of Sathikkai Podi
80
70
60
50
40
30
20
10
0
Control
SP 100mg/kg
SP 200mg/kg
SP 400mg/kg
Pentazocine 5mg/kg
30min
60min
90min
120min


% Of Pain Inhibition of Sathikkai Podi in Mice (Peripheral Analgesic Effect)
70
60
50
40
30
20
10
0
SP 100mg/kg
SP 200mg/kg
SP 400mg/kg
Aspirin 300mg/kg

BIO STATISTICAL ANALYSIS

Treatment for Sathikkai Podi

The most popular statistical tool, namely, Fisher's Exact Test analysis has been employed to analyses the effectiveness with the help of a hypothesis.

Hypothesis

There is no reducing symptoms among the patients for the treatment of Oruthalai Vatha Petham.

Symptoms	Number of Cases	
	Reduced	**Not Reduced**
Primary	11 78.6%	3 21.4%
Secondary	2 66.7%	1 33.3%
Tertiary	2 66.7%	1 33.3%

Software: spss17 version

Number of cases: 20

Test: Fisher's Exact test

Confidence Interval: 95%

Result:

P Value (2 tailed): $p<0.05$

Primary: unilateral headache, nausea/vomiting insomnia, lacrimation,photophobia, phonophobia,loss of appetite.

Secondary:unilateral headache,nausea/vomiting lacrimation, phonophobia,loss of appetite.

Tertiary: unilateral headache,insomnia.

Inference:

Since the p value is significant (<o.o5), The hypothesis is not accepted. So there is significant reduced symptoms among the patients for the treatment of Oruthalai Vatha Petham. Hence it is concluded that the treatment was effective and significant.

CONSENT FORM

I certify that I have disclosed all the details about the study in the terms readily understood by the patients.

DATE:

SIGNATURE

NAME

CONSENT BY THE PATIENTS

I have been informed to my satisfaction by the attending physician the purpose of the clinical trial and the nature of the drug treatment and follow up including the lab investigations to be performed to monitor and safeguard my body functions.

I am aware of my right to opt out of the trial at any time during the course of the trial without having to give reasons for doing so.

I exercising my free power of choice, hereby give my consent to be included as a subject in the clinical trial of SATHIKKAI PODI AND VETTIVER THYLUM for the treatment of ORUTHALAI VATHA PETHAM.

DATE:

SIGNATURE:

NAME

நோயாளியின் ஒப்புதல் படிவம்

திரு. _____ஆகிய நான் _____வயது,

(_____

_____

_____வசிக்கும் இடம்.) என் சுய நினைவுடன் எழுதிக் கொடுக்கும் ஒப்புதல் படிவம்.

நான் **ஒருதலை வாத பேதம்** என்னும் நோயால் பாதிக்கப்பட்டு சென்னை,அரசு சித்த மருத்துவ கல்லூரியில் (இடம்: அறிஞர் அண்ணா இந்திய மருத்துவமனை, அரும்பாக்கம், சென்னை-106.) நடத்தப்படும் சித்த மருத்துவ ஆராய்ச்சி மூலம் சிகிச்சை பெற என் சுய நினைவுடன் முழுசம்மதத்தையும் தெரிவித்துக்கொள்கிறேன்.

இந்த ஆராய்ச்சியின் நோக்கம், மருத்துவம் செய்யும் முறை, தொடர்கண்காணிப்பு மற்றும் என் உடல் நலம் குறித்த மருத்துவ பரிசோதனைகளைப் பற்றிய விரிவான விளக்கம் எனக்கு மருத்துவம் செய்யும் மருத்துவர் மூலம் தெளிவுபடுத்தப்பட்டுள்ளது. இந்த ஆராய்ச்சியில் பங்குகொள்ளும் என் சம்மதத்திற்கு யாருடைய நிர்பந்தமும் காரணமில்லைஎன்பதை தெரிவித்துக்கொள்கிறேன்.

இப்படிக்கு,

பெயர் :

முகவரி :

நாள் :

CASE SHEET
POST GRADUATE DEPARTMENT - BRANCH-I

(POTHU) MARUTHUVAM

GOVT. SIDDHA MEDICAL COLLEGE & ANNA HOSPITAL, CHENNAI-106.

CASE SHEET PROFORMA FOR "ORUTHALAI VATHA PETHAM"

WARD NO.	:	NATIONALITY	:
O.P/I.P. NO	:	RELIGION	:
BED NO	:	OCCUPATION	:
NAME	:	INCOME	:
AGE	:	D.O.A	:
SEX	:	D.O.D	:
PERMANENT ADDRESS	:		
		DIAGNOSIS	:

TEMPORARY ADDRESS :
Govt. Siddha Medical College &
Anna Hospital, Chennai – 106.

MEDICAL OFFICER :

COMPLAINTS AND DURATION :

HISTORY OF PRESENT ILLNESS :

HISTORY OF PAST ILLNESS :

PERSONAL HISTORY & HABITS :

A.Food	**:**	Veg	Non veg
B.Marital status	:	single	married

FAMILY HISTORY

GENERAL EXAMINATION:

1. Physical build	:	lean	normal	obese
2. Height (cm)	:			
3. Weight(kg)	:			:
4. Pulse rate	:			
5. Heart rate	:			
6. Respiratory rate	:			
7. Blood pressure	:			
8. Pallor	:			
9. Cyanosis	:			
10. Jaundice	:			
11. Clubbing	:			
12. Pedal oedema	:			
13. JVP				

EXAMINATION OF VITAL ORGANS

- **CVS** :
- **CNS** :
- **Respiratory system** :
- **Digestive system** :
- **Urogenital system** :

SIDDHA ASPECTS

Yaakai (udal nilai)	Mukkunam
1. Vatham	1. Sathuva gunam
2. Pitham	2. Raasatha gunam
3. Kapham	3. Thamo gunam
4. Kalappu	

PARUVA KAALAM (SEASONS)	NILAM (PLACES)
1. Kaar Kaalam (Aavani-Puratasi) Aug-sept.	1.Kurinchi (Hills Areas)
2. Koothir Kaalam (Iypasi-Karthigai) Oct-Nov.	2.Mullai (Forest Areas)
3. Munpani Kaalam (Maargazhi-Thai) Dec-Jan.	3.Marudham (Fertile Areas)
4. Elavenil Kaalam (Chithirai-Vaikasi) Apr-May	4.Neithal (Sea Areas)
5. Mudhuvenil Kaalam (Aani-Aadi) Jun-Jul	5.Paalai (Desert Areas)

IYAMPORIGAL/PULANGAL	KANMENTHIRIYAM / KANMAVIDAYAM
1. Mei (Sensation)	1.Kai [Koduthal]
2. Vaai (Taste)	2.Kaal [Nadathal]
3. Kann (Vision)	3.Vaai [Pesal]
4. Mooku(Smell)	4.Eruvai [Malam Kazhithal]
5. Sevi (Hearing)	5.Karuvai [Aananthithal]

MUMMALAM

1. Malam
2. Moothiram
3. Viyaravai

UYIR THATHUKKAL:

Vatham:

1. Pranan	6. Naagan
2. Abanan	7. Koorman
3. Viyanan	8. Kirukaran
4. Udhanan	9. Devadathan
5. Samanan	10. Dhananjeyan

PITHAM:	KAPHAM:
1. Anal Pitham	1. Avalambagam
2. Ranjaga Pitham	2. Kledagam
3. Saadhaga Pitham	3. Podhagam
4. Aalosaga Pitham	4. Tharpagam
5. Prasaga Pitham	5. Santhigam

UDAL THATHUKKAL:

1. Saaram
2. Senneer
3. Oon
4. Kozhuppu
5. Enbu
6. Moolai
7. Sukkilam / Suronitham

Envagai Thervu:

1. Naa -
2. Niram
3. Mozhi -
4. Vizhi -
5. Sparisam
6. Malam
    a) Niram
    b) Nurai
    c) Erugal
    d) Elagal
7. Moothiram
    a. Neerkuri
        a) Niram
        b) Edai
        c) Manam
        d) Nurai
        e) Enjal
    b. Neikuri
8. Naadi

SIGNS AND SYMPTOMS	PRESENT	ABSENT
Unilateral Headache		
Nausea/Vomiting		
Photophobia		
Phonophobia		
Lacrimation		
Dizziness		
Insomnia		
Loss of Appetite		

Assessment	Before Treatment	After Treatment			
		I	II	III	IV
Unilateral headache					
Nausea /vomiting					
Lacrimation					
Dizziness					
Photophobia					
Phonophobia					
Insomnia					
Loss Off Appetite					
Aggravation Of Pain during menstruation					

LABORTORY INVESTIGATIONS:

		BT	AT
1.Blood	Tc		
	Dc		
	ESR		
	Hb		
	Bl-sugar (R)		
	Bl.Urea		
	Sr.Cholesterol		
	Sr.Creatinine		
2.Urine -	alb		
	Sug		
	Dep		

3.X- RAY : PNS

4.CT-SCAN:BRAIN

TRAIL DRUG:

Drug 1: SATHIKKAI PODI

Dose: 500 mg, bd

Anubanam: MILK

Duration of treatment: 48days.

Drug 2: VETTIVER THYLUM

USE: 15 ML FOR BATH ONCE IN FOUR DAYS.

Pathiam (Do's and Don'ts)

Prognosis at the end of the treatment

Medical Officer Signature: **H.O.D**

BIBILIOGRAPHY

SIDDHA BOOKS:

1.THIRUMOOLAR THIRUMANTHIRAM

2.YUGI VAIDHYA CHINTAMANI

3.UDAL THATHUVAM

4.SIDDHA MARUTHUVANGA SURUKKAM

5.GUNAPADAM-VOL-1 (MOOLIGAI)

6.NOI NADAL NOI MUDHAL NADAL THIRATTU PART-1

7.THOTRAKIRAMA ARAICHIYUM SIDDHA MARUTHUVA VARALARUM

8.ANGATHI PATHAM

9.SARABENDRA VAIDYA MURAIKAL (SIROROGA SIKICHAI)

10.NAGAMUNI THALAI NOI MARUTHUVAM

11.4448 VIYADHIKAL VILAKKAM

12.VATHA ROGA SIKICHAI(SARABENDRA VAIDYA MURAIGAL)

13.THERAIYAR VAIDYA KAVIYAM-1500

14.T.V.S DICTIONARY PILLAI VOL-1V

15.THERAIYAR VENBA

16.THERAIYAR VAGADAM

17.ROGA NIRNAYA SARAM ENNUM ROGA NITHANAM

18.THIRUKKURAL THELIVURAI (VARATHARASAN)

19.PARARASA SEKARAM

20.PATHARTHA GUNA CHINTAMANI

MODERN BOOKS:

1.PATHOLOGIC BASIS OF DISEASE-ROBBINS

2.HUTCHISON CLINICAL METHODS

3.TEXT BOOK OF MEDICINE-P.C.DAS

4.TEXT BOOK OF PATHOLOGY-HARSH MOHAN

MEDICINAL BOTONY:

1.WEALTH OF INDIA

2.INDIAN MATERIA MEDICA.

LABORATORY INVESTIGATION REPORT (OP)

Sl. No.	O.P. No.	Name	Age/ Sex	HAEMATOLOGICAL REPORT														URINE ANALYSIS					
				BEFORE TREATMENT				AFTER TREATMENT				ESR (mm)				Hb(Gm)		BT			AT		
				TC CU/mm	DC			TC CU/mm	DC			BT		AT		BT	AT						
					P	L	E		P	L	E	1/2 hr	1 hr	½ hr	1hr			Alb	Sug	Dep	Alb	Sug	Dep
1.	5165	SANDHYA	40/F	8600	55	39	6	8700	56	39	5	49	68	20	38	9	11	NIL	NIL	Opc	NIL	NIL	NIL
2.	4616	MUTHULAKSHMI	41/F	9400	52	40	8	9200	50	44	6	10	20	5	12	12.2	13.2	NIL	NIL	Opc	NIL	NIL	NIL
3.	8498	KAVITHA	24/F	9400	54	36	10	9400	55	37	8	15	40	10	23	10.2	12.8	NIL	NIL	Opc	NIL	NIL	NIL
4.	2972	PREMAKUMARI	53/F	9800	54	38	8	9700	54	40	6	32	60	16	34	10.4	11	NIL	NIL	Opc	NIL	NIL	NIL
5.	4849	VIJAYA	43/F	6100	52	42	6	7200	53	42	3	22	50	11	20	7	8.2	NIL	NIL	Opc	NIL	NIL	NIL
6.	3956	KANNAGI	45/F	8200	53	43	4	8000	57	39	4	17	30	5	11	10.6	10	NIL	NIL	NIL	NIL	NIL	NIL
7.	8452	KUMAR	26/M	9800	57	28	15	9800	58	32	10	2	4	2	4	12.4	12.4	NIL	NIL	Opc	NIL	NIL	NIL
8.	1972	CHITHRA	54/F	9400	55	39	6	9800	53	42	5	20	45	10	22	13	13.2	NIL	NIL	Opc	NIL	NIL	Opc
9.	9349	AMUDHA	44/F	9000	53	40	7	8900	50	45	5	25	62	4	15	10.4	10	NIL	NIL	Opc	NIL	NIL	NIL
10.	2052	SARAVANAN	26/M	9800	57	39	4	10900	60	39	1	5	12	2	5	15	14	NIL	NIL	Opc	NIL	NIL	NIL
11.	6188	SAROJINI DEVI	35/F	9300	55	41	4	9200	59	37	4	15	35	8	20	12	12.8	NIL	NIL	Oec	NIL	NIL	NIL
12.	7039	BASHEERABEGUM	17/F	8700	58	37	5	8500	57	37	6	20	39	8	15	11.4	11.8	NIL	NIL	Oec	NIL	NIL	NIL
13.	5420	SHANTHI	43/F	9700	54	37	4	9800	53	39	8	22	55	4	20	11.8	12.6	NIL	NIL	Opc	NIL	NIL	NIL
14.	6046	SUBASH	30/M	9600	59	37	4	9700	59	39	2	2	3	2	5	15.4	15	NIL	NIL	Opc	NIL	NIL	NIL
15.	1175	KARPAGAM	49/F	9300	57	39	4	9400	56	40	4	2	5	2	5	10.6	10	NIL	NIL	Opc	NIL	NIL	Opc
16.	6566	YASODHA	56/F	8700	54	41	5	8700	56	39	6	24	60	10	14	10.8	12	NIL	NIL	Oec	NIL	NIL	NIL
17.	9594	SARGUNAM	33/M	8800	56	39	5	8800	52	34	4	2	4	2	6	14.4	14.4	NIL	NIL	Oec	NIL	NIL	NIL
18.	7290	SHANTHI	37/F	9000	53	41	6	9100	54	41	5	6	20	4	9	10.4	11.6	NIL	NIL	Opc	NIL	NIL	NIL
19.	9222	LOKESH	34/M	9700	58	39	3	10100	61	37	2	7	13	7	18	15	14.6	NIL	NIL	Opc	NIL	NIL	NIL
20.	8465	KOTEESWARI	48/F	9300	57	35	8	9400	60	32	8	26	60	16	30	9.8	10.6	NIL	NIL	Oec	NIL	NIL	NIL

TC – Total Count

Dc – Differential Count

P – Polymorph

L – Lymphocyte

E – Eosinophil

Hb – Haemoglobin

ESR – Erythrocyte Sedimentation Rate

Alb – Albumin

Sug – Sugar

Dep – Deposits

OEC – Occasional Epithelial Cells

OPC – Occasional Pus Cells

FPC – Few Pus Cells

FEC – Few Epithelial Cells